

**ASSOCIATED PLATING COMPANY** 

# Additional Facilities Investigation Report

Associated Plating Company Santa Fe Springs, California

H0287C

30 June 2006

#### **Environment & Water Resources**

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DEPARTMENT OF TOXICOPY.

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Professional Geologist 7749

June 30, 2006

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REV	DESCRIPTION	ORIG	REVIEW	WORLEY- PARSONS APPROVAL	DATE	CLIENT APPROVAL	DATE
Α	Issued for internal review	Author	M PA A Reviewer	IV	15-Jun-06		
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#### LIST OF ACRONYMS AND ABBREVIATIONS

APC Associate Plating Company

AOPC areas of potential concern

API American Petroleum Institute

AST aboveground storage tank

ASTM American Society for Testing and Materials

bgs below ground surface

BTEX benzene, toluene, ethylbenzene, and xylenes (collectively referenced)

CA California

CAM California Administrative Manual

cis-1,2-DCE cis-1,2-dichloroethene

cm/sec centimeters per second

Dayton Dayton Superior

1,1-DCA 1,1-Dichloroethane

1,1-DCE 1,1-Dichloroethene

DHS California Department of Health Services

DOT Department of Transportation

DTSC Department of Toxic Substances Control

DWR California Department of Water Resources

ESLs Environmental Screening Levels

ft foot ft feet

g/cc grams per cubic centimeters

LARWQCB Regional Water Quality Control Board, Los Angeles Region

LACDHS Los Angeles County Department of Health Services

LNAPL light non-aqueous liquid

MCLs maximum contaminant levels

mg/kg milligrams per kilogram

MS matrix spike

MSD matrix spike duplicate

MSL mean sea level

MTBE methyl tert-butyl ether

NPL National Priorities List

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OD outside diameter

Omega Omega Chemical facility

OU Operable Unit
PBR Permit by Rule

PCE tetrachloroethene

PCOCs potential chemicals of concern

PID photoionization detector

ppm parts per million

PRG Preliminary Remediation Goal

QA quality assurance
QC quality control

RBSLs Risk-Based Screening Levels

SGS soil gas survey

Sq ft square foot

SVOCs semi-volatile organic compounds
SWMUs Solid Waste Management Units

TCE trichloroethene

TPH total petroleum hydrocarbons

TPHd total petroleum hydrocarbons in the diesel range
TPHg total petroleum hydrocarbons in the gasoline range

ug/kg micrograms per kilogram
ug/L micrograms per Liter

USCS Unified Soil Classification System

USEPA United States Environmental Protection Agency

UST underground storage tank
Valvoline Valvoline Oil Company

VC vinyl chloride

VOCs volatile organic compounds

WDI Waste Disposal Inc.

#### 1. INTRODUCTION

This report presents the results of the April 2006 additional investigation of organic and inorganic constituents in soil, groundwater, and soil gas beneath the Associated Plating Company (APC) metal plating facility (the Site – **Figure 1**), located at 9636 Ann Street in the City of Santa Fe Springs, California. This report also presents the results of a human health risk assessment prepared by Mearns Consulting LLC (**Appendix A**). For previous investigation results, please refer to the Revised Facilities Investigation Report dated May 9, 2005 (Komex, 2005).

The work was performed in accordance with the Workplan for Additional Investigation prepared by WorleyParsons Komex, dated January 20, 2006 (WorleyParsons Komex, 2006). This workplan incorporated the general and specific Department of Toxic Substances Control (DTSC) comments from their letters to APC, dated September 20, 2005, December 14, 2005, and February 27, 2006 (DTSC, 2005a; DTSC, 2005b; DTSC, 2006a). This report has been prepared in accordance with the Corrective Action Consent Agreement entered into between APC and the DTSC on January 5, 2004.

#### 1.1 Facility Background

APC operates a plating shop for small metallic components at 9636 Ann Street in the City of Santa Fe Springs, California (**Figures 1 & 2**). The Site consists of an approximately 17,000 square foot (sq. ft.) concrete tilt-up building, situated on approximately 1.25 acres. The plating facility specializes in the use of fused tin and tin/lead alloys using electro- and electroless plating. Nickel and copper are the most commonly used metals. Precious metal plating is also performed using silver, gold, tin, zinc, and aluminum. Several plating lines with associated tanks are located within the facility. APC handles hazardous waste in two units authorized by the DTSC on August 4, 1993 under Permit by Rule (PBR).

For purposes of discussion and points of reference, the Site can be divided into six main areas, described as follows (Figure 3):

- Administrative offices, located in the northwestern area of the building;
- Shipping, receiving and inspection room, located in the northeastern area of the building;
- Main plating facility, occupying the rest of the building that includes lines one through five, the floor channels, the maintenance room and the maintenance stockroom;
- Outside storage, located to the east of the building that includes from north to south: the former tetrachloroethene (PCE) above ground storage tank (AST), empty drum storage area, a chemical storage area and a second area of chemical storage located in the southeastern corner of the Site;
- Wastewater treatment area, located to the south of the building that includes: holding tanks, clarifiers, filter press, batch neutralization tanks, sludge dryer, cyanide destruction unit, stripping department and ion exchange units. The former vapor degreaser was also located in this area; and,



Employee parking and vacant land, located to the east of the outside storage.

#### 1.2 Objective

The objectives of this investigation were to investigate the lateral and vertical extent of inorganic and organic contamination, and to perform a human health risk assessment. The extent of lateral and vertical contamination was investigated within the soil and groundwater below the buried concrete pad, to the APC property boundaries. The lateral extent of contamination above the concrete pad was also investigated within soil and soil gas in the northern area of the Site.

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#### 2. GEOLOGY AND HYDROGEOLOGY

#### 2.1 Regional Geology and Hydrogeology

This portion of Los Angeles County is underlain by the Los Angeles County Coastal Plain and is bounded by the Santa Monica Mountains to the north, the low lying Elysian, Repetto, Merced, and Puente Hills to the northeast, a political boundary coinciding with the boundary between Los Angeles County and Orange County to the southeast, and the Pacific Ocean to the southwest. Alluvial fans formed by the Los Angeles, Rio Hondo, and San Gabriel Rivers systems have coalesced to form the Downey Plain, which represents the largest area of recent alluvial deposition in the Coastal Plain. The Downey Plain is bordered by the La Brea, Montebello, and Santa Fe Spring Plains, and the Coyote hills to the north and northeast, the Newport Inglewood uplift to the southwest, and the Coastal Plain of Orange County to the southeast (DWR, 1961). The Downey Plain slopes gently to the south with an average gradient of less than 18 feet per mile. The Site is located between the Downey Plain and the Santa Fe Springs Plain. The Santa Fe Springs Plain is located south of Whittier and east of the San Gabriel River, in the area of the City of Santa Fe Springs. The Santa Fe Springs Plain is a low, slightly rolling topographic feature and represents a continuation of the Coyote Hills Uplift to the southeast.

The Coastal Plain of Los Angeles County is a deep groundwater reservoir filled by unconsolidated alluvial sands, gravels, clays, and silts. Fresh-water aquifers extend to depths of over 2,000 feet. The California Department of Water Resources (DWR) divided the coastal plain into four groundwater basins: the Santa Monica Basin, the West Coast Basin, the Hollywood Basin, and the Central Basin (DWR, 1961). The Site lies within the Central Basin, which is further divided into four parts for descriptive purposes: the Los Angeles Forebay Area, the Montebello Forebay Area, the Whittier Area, and the Central Basin Pressure Area.

The Site is located in the Central Basin Pressure Area. The Central Basin Pressure Area is called a "pressure area" because the aquifers within it are confined by aquicludes over most of the area. The major regional aquitards and aquifers beneath the Site occur in the Recent Alluvium, the Upper Pleistocene Lakewood Formation, and the Lower Pleistocene San Pedro Formation. Depth intervals for the major regional hydro-stratigraphic units (aquitards and aquifers) in the Site vicinity are presented in the table below:

Regional Hydro-stratigraphic Unit	Formation	Approximate Depth Intervals (feet below ground surface) $0-30$		
Bellflower Aquitard	Recent Alluvium			
Gaspur	Recent Alluvium	30 – 65		
Gage	Lakewood	65 – 110		

Regional Hydro-stratigraphic Unit	Formation	Approximate Depth Intervals (feet below ground surface)		
Hollydale-Jefferson	San Pedro	110 - 130		
Lynwood	San Pedro	130 – 210		
Silverado	San Pedro	210 - 360		
Sunnyside	San Pedro	360 - 610		

#### 2.2 Site Geology and Hydrogeology

#### 2.2.1 Site Geology

The elevation of the property is approximately 150 feet above mean sea level (MSL) with a local topographic gradient of less than 20 feet per mile to the southeast. The Site is underlain with artificial fill composed primarily of silt from ground surface to an approximate depth of 7 feet below ground surface (bgs). At approximately 7 feet bgs a concrete pad is encountered, which is approximately four inches thick. Underlying the concrete pad is a silt and clay layer that extends to approximately 25 feet bgs. Below the silt and clay layer is a sand and gravelly sand layer that extends to at least 48 feet bgs (Figure 4). Both the silt and clay layer and the sand and gravel layer correspond to the Recent Alluvium.

#### 2.2.2 Site Hydrogeology

In April 2006, first groundwater was detected between 34 and 38 feet bgs (approximately 112 feet MSL) and corresponds to the Gaspur Aquifer. Groundwater flow is towards the south-southwest at an approximate gradient of 0.001 feet per foot (ft/ft).

#### 2.3 Site Conceptual Model

In accordance with the Site conceptual model developed below, the subsurface at the Site and Site vicinity has been divided into three operable units: Operable Unit 1 (OU-1), Operable Unit 2 (OU-2), and Operable Unit 3 (OU-3) (Figure 4). OU-1 consists of fill material underlying the Site from ground surface to the top of the buried concrete pad (approximately 7 feet below ground surface). OU-2 consists of on-Site soils and the first groundwater zone, from the base of the concrete pad to approximately 50 feet below ground surface (bgs). OU-3 consists of the off-Site soils and the first groundwater zone.

Fill material in OU-1 is impacted by petroleum hydrocarbons (C6 to C40), fuel volatile organic compounds (VOCs), probably representing pre-existing contamination from the former storage tank, and chlorinated solvent compounds, consistent with releases of tetrachloroethylene (PCE) from the APC facility. The potential release mechanisms, pathways, exposure routes, and receptors are discussed in the accompanying human health risk assessment (Appendix A).

Soil and groundwater contaminant conditions in OU-2 are based primarily on four monitoring wells advanced below the buried concrete pad to approximately 48 feet bgs. Soil in OU-2 is impacted by total petroleum hydrocarbons (TPH) (C7 to C36); fuel VOCs, PCE, TCE, cis-1,2-dichloroethene (cis-1,2-DCE) and vinyl chloride (VC). Light Non-Aqueous Phase Liquid (LNAPL) hydrocarbons are present on the groundwater surface, and fuel VOCs, PCE, TCE, cis-1,2-DCE, trans-1,2-dichloroethene (trans-1,2-DCE) and VC are dissolved in groundwater. All of these constituents may have been disposed of in the former petroleum waste storage tank at the Site, and migrated downwards, impacting deeper soils and the groundwater (Figures 4). The LNAPL and the fuel VOCs are also consistent with possible migration through soil and groundwater from the nearby former Unocal and/or Dayton Superior facilities. Cis-1,2-DCE and VC are breakdown products of trichloroethylene (TCE) and PCE, and may have migrated downward from the upper fill material. Based on the presence of dissolved chlorinated solvents and chloroformin groundwater samples collected in up-gradient well MW-1, and up-gradient and downgradient of the Site, it is very likely that VOCs from off-Site sources have impacted OU-2 (on-Site) groundwater.

There are several potential sources for contamination in OU-3 (off-Site) groundwater, including all or some the following:

- Former petroleum waste storage tank on APC property (petroleum hydrocarbons and fuel VOCs);
- Valvoline, Dayton Superior and Unocal facilities (petroleum hydrocarbons, including LNAPL and fuel VOCs);
- Waste Disposal Inc. (VOCs and metals);
- APC facility (chlorinated solvents); and
- Omega Superfund site (chlorinated solvents and chloroform).

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#### 3. APRIL 2006 FIELD INVESTIGATIONS

#### 3.1 Well Installation

#### 3.1.1 Sampling Locations

On April 5 & 6, 2006, four monitoring wells (MW-1, MW-2, MW-3 and MW-4) were advanced to approximately 48 feet bgs using a limited access hollow stem auger drilling rig operated by BC2 of Fullerton, California. The four monitoring wells were drilled to characterize the lateral and vertical extent of VOCs (including chlorinated solvent compounds), TPH, and metals beneath the Site (**Figure 3**). The four monitoring wells were advanced at the locations shown on **Figure 3**:

- Upgradient of facility (monitoring well #1);
- Former PCE above ground storage tank (AST) (monitoring well #2);
- Chemical storage area (monitoring well #3); and
- Batch treatment neutralization tanks (monitoring well #4).

A fifth well was originally proposed (monitoring well #5); however, due to site access issues, a limited access rig was not able to reach the proposed location. Refer to the Workplan for Additional Investigation, dated January 20, 2006, Figure 1 for the location of proposed monitoring well #5. An alternate location, approximately 50 feet to the east of the original proposed location was suggested to DTSC, and was rejected. DTSC then requested that the fifth well be installed south of the former vapor degreaser off-site, on Unocal property. A letter requesting access to install a well on Unocal property was sent to Unocal in Santa Fe Springs on April 11, 2006. The letter was returned and a second letter requesting access to install a well on Unocal property was sent to Unocal Headquarters in Texas on April 21, 2006. As of June 30, 2006, Unocal has not responded to the request.

#### 3.1.2 Pre-field and Permit Activities

WorleyParsons Komex coordinated with the DTSC, APC, subcontractors, and other concerned parties for all investigative work. The field activities at the Site were coordinated with on-Site personnel and representatives of the DTSC, as needed. Prior to conducting the Site investigation, monitoring well installation permits were obtained from the Los Angeles County Department of Health Services (LACDHS) (Appendix B). The locations of the wells were marked prior to installation and California Underground Service Alert was notified 48-hours prior to conducting the field activities.

#### 3.1.3 Soil Sampling Procedures

Prior to drilling activities, a near surface geophysical survey was performed by Spectrum Geophysics of Burbank, California. Upon completion of the geophysical survey, a 12-inch diameter core of concrete was removed from each location and a hand auger was advanced to approximately 5 feet bgs to ensure no underground utilities were present.

Soil samples were collected using a 2-inch outer diameter (OD) by 1.5-foot long California-modified split spoon sampler. Prior to the field investigation, a soil sampling procedure had been proposed (with DTSC's approval) whereby soil samples were to be collected from boreholes MW-1 and MW-2 at 5, 10, 15, 25 and 35 feet bgs and from MW-3 and MW-4 at 10, 15, 25 and 35 feet bgs. This procedure was followed as proposed, except during the advancement of borehole MW-3, where poor soil recovery prevented sampling at 10 feet bgs and only allowed limited sampling at 15 feet bgs. As a result, a sample was collected from borehole MW-3 at 5 feet bgs for VOC, California Administrative Manual (CAM) metals and TPH (carbon range C7 to C36) analyses instead of at the proposed depth of 10 feet bgs. Due to the limited soil recovery at 15 feet bgs, there was only enough soil collected for the VOCs and TPH (carbon range C7 to C36) analyses. Therefore, an additional sample was collected at 22 feet bgs for metals analysis.

Soil samples were described for lithologic, hydrogeologic, and geotechnical properties using the Unified Soil Classification System (USCS). A portion of each soil sample was also placed in re-sealable plastic bags and analyzed in the field for headspace VOCs using a photoionization detector (PID) (model PhotoVac 2200 with an 11.7 eV lamp) calibrated against isobutylene. Soil samples were collected in 2-inch diameter, 6-inch long metal sleeves. The soil descriptions and results of field VOC headspace testing were recorded on the borehole logs (**Appendix C**).

#### 3.1.4 Soil Sample Analyses

Soil samples for laboratory analysis were appropriately labeled, recorded on a chain of custody, temporarily placed in an ice chest, and submitted under chain-of-custody protocol within 24 hours to Sierra Analytical Labs, Inc., (Sierra) of Laguna Hills, California, a California Department of Health Service (DHS)-certified hazardous waste laboratory. All on-site soil samples were analyzed for the following parameters:

- TPH-carbon range (C7 to C36) in accordance with USEPA Method 5030/ 8015 Modified;
- VOCs in accordance with USEPA Method 5035/8260B;
- CAM metals (including hexavalent chromium) using total digestion preparation and USEPA Methods 6010B, and 7199.

Soil samples for VOC analysis were sub-cored using EnCore samplers immediately upon retrieval in accordance with USEPA Method 5035. Soil samples for metals and TPH analyses were collected in 6-inch stainless steel sleeves and sealed with Teflon tape and capped. To ensure that the data collected at the Site were representative, sampling and analysis followed WorleyParsons Komex QA/QC procedures.

#### 3.1.5 Groundwater Monitoring Well Installation

After soil sampling, the boreholes were converted to monitoring wells. Groundwater monitoring wells MW-1, MW-2, MW-3 and MW-4 were constructed using 2-inch schedule-40 polyvinyl chloride (PVC) casing with a 10-foot slotted screened interval (0.020-inch slot size screen). A 13 to 14 foot filter pack was constructed within the well screen annular space using #2/16 screen-washed sand. The filter pack was placed from the base of the borehole to 2-feet above the screened interval. A transition seal was

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constructed within the annular space above the filter pack using bentonite chips hydrated in place to a thickness of 2 to 3.5 ft. A surface seal composed of Volclay<sup>TM</sup> was constructed within the remaining annular well space from the top of the transition seal at 28 to 33 feet bgs to ground surface. The wells were completed at the surface with 8-inch diameter traffic-rated well boxes. Refer to **Table 1** for the well construction details.

#### 3.1.6 Monitoring Well Development

The groundwater monitoring wells were developed on April 10, 2006, more than 48 hours after well construction. Well development was performed by the drilling subcontractor, BC2, and involved the removal of approximately six well casing volumes of groundwater. The wells were bailed for approximately 10 minutes, then mechanically surged for a maximum of 15 minutes, bailed again for approximately 10 minutes and then purged of groundwater using a pump until the wells yielded groundwater of suitable quality. Groundwater was removed until hydrogeochemical parameters (temperature, pH, turbidity and electrical conductivity) had stabilized to within 10% of the previous reading and groundwater turbidity had been reduced to acceptable levels. Well development field sheets are included in **Appendix D**.

#### 3.1.7 Monitoring Well Groundwater Sampling

All groundwater wells at the Site (MW-1, MW-2, MW-3 and MW-4) were sampled on April 12, 2006, more than 24 hours after development. Prior to groundwater sample collection, a minimum of three casing volumes of groundwater were purged from each well using a PVC baller. During purging, hydrogeochemical parameters including temperature, pH, turbidity, and electrical conductivity were monitored. Purging continued until three casing volumes of groundwater had been removed and the hydrogeochemical parameters had stabilized (less than 10% variation between three consecutive readings). Each well was allowed to recover to at least 80% of the pre-purged volume before sampling. Groundwater samples were collected using disposable polyethylene ballers and transferred directly to sampling containers for analysis. Groundwater sampling forms are included in **Appendix D**.

#### 3.1.8 Groundwater Sampling Analyses

Groundwater samples were appropriately labeled, recorded on a chain of custody, temporarily placed in an ice chest, and submitted under chain-of-custody protocol to Sierra for the following suite of analyses:

- TPH-carbon range (C7 to C36) in accordance with USEPA Method 8015 Modified;
- VOCs in accordance with USEPA Method 8260B;
- CAM metals (including hexavalent chromium) using total digestion preparation and USEPA Methods 6010B and 7199.

A sheen of LNAPL was detected in each well, but was not of measurable quantity. Therefore, LNAPL samples were not collected for analysis.

#### 3.1.9 Quality Control Samples

Quality control samples including field (ambient) blanks and equipment blanks (prepared by WorleyParsons Komex in the field), and laboratory control, method blank, matrix spike and matrix spike duplicates (prepared in the laboratory), were periodically collected or prepared.

One field blank and one equipment blank were collected by WorleyParsons Komex each sampling day. The equipment blank for soil sampling was collected by pouring deionized water through the decontaminated split spoon sampler into sample containers. The equipment blank for groundwater sampling was collected by pouring deionized water through the decontaminated PVC baller into sample containers. Field blanks were collected at the Site by filling the sample containers with deionized water and allowing them to remain open while the equipment blank was prepared. Laboratory control, method blank, matrix spike and matrix spike duplicate (MS/MSD) samples were produced and analyzed by the laboratory at a frequency of one per 20 samples.

#### 3.1.10 Monitoring Well Surveying

On April 12, 2006, groundwater wells MW-1, MW-2, MW-3 and MW-4 were surveyed by Dulin Boynton of Signal Hill, California, a State-licensed land surveying company. Site surveying was performed relative to established horizontal control and elevation benchmarks (National Geodetic Survey monuments in the area). The survey included horizontal location coordinates using the California State Plane NAD83 coordinate system and vertical elevations were measured relative to mean sea level. Horizontal and vertical coordinates were surveyed at the northern rim of each traffic-rated well box. In addition, the vertical elevation of the top of casing of each well was also surveyed. The surveyed well locations are illustrated on **Figure 2**. **Table 1** lists elevations and latitudinal and longitudinal coordinates of the wells.

#### 3.2 Soil Gas Sampling and Analyses

#### 3.2.1 Sampling Locations

Soil gas sampling was performed at two locations (B-47 and B-48) on April 17, 2006, in accordance with "Interim Guidance for Soil Gas Investigation" prepared by the LARWQCB, dated February 25, 1997, and "Advisory – Soil Gas Investigations" prepared by DTSC and LARWQCB, dated January 28, 2003. The locations of the boreholes were marked prior to installation, and California Underground Service Alert was notified 48-hours prior to conducting the field activities. Prior to drilling activities, a near surface geophysical survey was performed by Spectrum Geophysics of Burbank, California.

The two soil gas boreholes were advanced to characterize the lateral extent of VOCs (including chlorinated solvent compounds) and TPH in the northern area of the Site (**Figure 3**). The two boreholes were advanced in the northern area of the Site, north of soil gas borings B-39 and B-37 at the locations shown on **Figure 3**.



#### 3.2.2 Soil Gas Sampling Procedures

Soil gas sampling probes were installed using a truck-mounted direct-push drilling rig operated by Environmental Support Technologies (EST) of Irvine, California. Once the probe was advanced to 5 feet bgs, the 1.5-inch diameter hollow probe drive-rods were withdrawn, leaving a steel probe point in the subsurface. 1/4-inch Teflon sampling tubing was lowered down to the stainless steel fitting and secured by the hose barb portion of the fitting. The end of the tubing was plugged with a sheet metal screw and a series of slots were cut for an approximate 2-inch section of the perforated tubing. An approximate 6-inch column of clean, graded No. 3 Lonestar Monterey sand was poured around the perforated section of Teflon sample tubing to allow for diffusion of soil vapors. Approximately 6-inches of granular bentonite was added above the sand pack and hydrated. The remaining annulus was filled with cement mortar to ground surface.

After probe emplacement and prior to sampling, an equilibration time of 30 minutes was observed. During the previous Site soil gas investigation (September 2004), a purge test was conducted and a flow rate of 200 ml/min was determine to be the appropriate flow rate to ensure samples collected were representative of subsurface conditions. Therefore, the two proposed soil gas borings were purged at a flow rate of 200 ml/min. After purging three well casings, a sample was collected in a Summa canister at a flow rate of 200 ml/min.

A leak test was conducted at every soil gas probe by applying a cloth with isopropanol around the top of the prove and then analyzing for that compound in the sample. Typically, the reporting limit for the tracer is 10 ug/L as per the DTSC and LARWQCB Soil Gas Advisory. However, since the soil gas samples were analyzed according to TO-14A, rather than USEPA Method 8260, the reporting limits for isopropanol were below 10 ug/L. Isopropanol was not detected at or above 10 ug/L, in the two soil gas samples; however, it was detected below 10 ug/L. The detection could indicate that ambient air was entering the system or that there was cross-contamination during the set-up. Since proper protocol was followed to seal the boring it is more likely that when the driller applied isopropanol to the cloth and then connected the tubing to the pump, the tubing was contaminated with isopropanol. Since the target compounds were detected in both soil gas samples at concentrations similar to nearby soil gas samples collected previously, and the tracer was detected below the acceptable reporting limit, the soil gas results for the two borings are considered acceptable.

All equipment that came into contact with potentially affected material, including drill rods and the sampling port assembly, were thoroughly cleaned with a laboratory grade detergent (Alconox) and deionized water before and after each use. Upon completion of soil gas sample collection, the boreholes were grouted to the base of the ground surface or floor with hydrated granular bentonite. The ground surface was then patched to match pre-existing conditions.

#### 3.2.3 Soil Gas Sample Analyses

Soil gas samples were analyzed by Calscience of Garden Grove, California, a California DHS-certified hazardous waste laboratory. The two soil gas samples were analyzed for the following parameters:

TPH in accordance with TO-3; and

VOCs in accordance with TO-14A.

#### 3.2.4 Soil Gas Quality Control Samples

Quality control samples including field (ambient) blank (prepared by WorleyParsons Komex in the field), and laboratory control, method blank, matrix spike and matrix spike duplicates (prepared in the laboratory), were periodically collected or prepared.

An ambient air sample was collected in the field using a one liter Summa canister and analyzed for VOCs in accordance with TO-14A. A laboratory control, method blank, matrix spike and matrix spike duplicate (MS/MSD) sample were produced and analyzed by the laboratory at a frequency of one per 20 samples.

#### 3.3 Shallow Soil Sampling

#### 3.3.1 Sampling Location

One additional shallow soil borehole (B-49) was advanced to a depth of 7 feet bgs in the northern part of the Site to characterize the lateral and vertical extent of VOCs (including chlorinated solvent compounds), TPH-carbon range and metals in OU-1 (Figure 3).

#### 3.3.2 Sampling Procedures

Soil samples were collected using Geoprobe TM direct-push drill rig operated by Environmental Support Technologies (EST) of Irvine, California. Soil samples were collected at approximate depths of 1, 4, and 7 feet bgs.

For soil sampling, a cutting shoe with a spacer ring was threaded onto the male end of the probe rod and an acetate sample liner was inserted through the opposite end of the probe rod. A drive head was then threaded onto the female end of the probe rod and attached to a drive rod. At the required sampling depth, the probe rod and cutting shoe were advanced into the undisturbed soil with a hydraulic hammer. Soil samples were collected in 1-inch diameter, 2-foot long acetate sleeves lining the inside of the probe rod, which were then cut at the desired sampling depth. The probe rod was then retrieved from the borehole, the drive head removed and the sample liner removed from the probe rod and cut into two sections, one for VOC analyses and one for TPH and metals analyses. The sample for VOC analyses was sub-cored using EnCore samplers immediately upon retrieval in accordance with USEPA Method 5035. The sample liner for TPH and metals analyses was sealed with Teflon tape and plastic end caps.

Soil samples were described for lithologic, hydrogeologic and geotechnical properties using the Unified Soil Classification System (USCS). All soil samples underwent initial field screening for the presence of VOCs using a PID (Photovac 2020 with a 11.7 eV lamp). The soil descriptions and results of the field VOC headspace testing were recorded on the borehole log included in **Appendix C**.

All the soil samples were placed inside a Ziploc bag and placed on ice in an ice chest. Upon completion of soil sample collection, the boreholes were backfilled with hydrated granular bentonite. The ground surface was then patched to match pre-existing conditions.

#### 3.3.3 Shallow Soil Sample Analyses

Soil samples for laboratory analyses were immediately transferred to an ice chest and delivered within 24 hours under chain-of-custody to Sierra Analytical and analyzed for the following parameters:

- TPH-carbon range in accordance with USEPA Method 5030/8015 Modified;
- VOCs in accordance with USEPA Method 5035/8260B;
- California Administrative Manual (CAM) metals (Including hexavalent chromium) using total digestion preparation and USEPA analytical Methods 6020 and 7199.

#### 3.3.4 Quality Control Samples

Quality control samples including field and equipment blanks (prepared by WorleyParsons Komex in the field), and trip blank, laboratory control, method blank, matrix spike and matrix spike duplicates (prepared in the laboratory), were periodically collected or prepared during shallow soil sampling. Field duplicate samples were not collected for soil samples because soil matrix, by nature, is heterogeneous and will not consistently provide repeatable results even for samples collected within centimeters of one another. Laboratory control, method blank, matrix spike and matrix spike duplicate (MS/MSD) samples were produced and analyzed by the laboratory at a frequency of one per 20 samples.

Quality Control samples were collected by WorleyParsons Komex during soil gas and shallow soil sampling conducted on April 17, 2006. An equipment blank sample was collected by pouring distilled/de-ionized water over the decontaminated split spoon sampler into sample containers. A field blank was collected at the Site by filling the sample containers with deionized water and allowing them to remain open while the equipment blank was prepared. A laboratory-sealed trip blank was placed in the ice-chest used to transport the samples to ensure that the samples were not contaminated during travel and sample handling.

The equipment and field blanks were analyzed for the following suite of analyses:

- TPH-carbon range (C7 to C36) in accordance with USEPA Method 5030/ 8015 Modified;
- VOCs in accordance with USEPA Method 8260B;
- CAM metals (including hexavalent chromium) using total digestion preparation and USEPA Methods 6010B and 7199.

The trip blank samples were only analyzed for VQCs as they were intended to determine if any volatile contamination had infiltrated the samples during transport. The trip blank vials are prepared in the lab and remain unopened while in the field, so only air-borne contaminants (volatile organic compounds) could possibly enter them.

#### 3.4 Waste Disposal

All soil cuttings, decontamination water, and groundwater generated during the Site assessment were contained in Department of Transportation (DOT)-approved 55-gallon drums. WorleyParsons Komex

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## ASSOCIATED PLATING COMPANY FACILITIES INVESTIGATION REPORT ASSOCIATED PLATING COMPANY - SANTA FE SPRINGS. CALIFORNIA

arranged for transport and disposal of the waste at a State licensed non-hazardous waste disposal or recycling facility. Drums were temporarily stored at the Site prior to disposal. The drums were removed from the Site and transported to US Filter disposal facility by PFR Environmental Services, a licensed non-hazardous waste hauler on June 9, 2006. An APC representative signed the waste manifest as generator and the non-hazardous waste manifests are included in **Appendix E**.

#### 4. APRIL 2006 RESULTS OF INVESTIGATION

#### 4.1 Site Lithology

Based on lithologic data obtained from the four monitoring wells (Appendix C) completed during this investigation, the Site lithology primarily consisted of artificial fill composed of sandy silt and clayey silt with occasional silty clay from ground surface to an approximate depth of 7 feet bgs. At approximately 7 feet bgs a concrete pad was encountered. Underlying the concrete pad is a silt and clay layer that extends to approximately 25 feet bgs. Below the silt and clay layer is a sand and gravelly sand layer that extends to at least 48 feet bgs (Figure 4). Both the silt and clay layer and the sand and gravel layer correspond to the Recent Alluvium. Petroleum hydrocarbon odors were noted in soils from wells MW-1 through MW-4.

#### 4.2 Site Hydrogeology

In April 2006, first groundwater was detected between 34 and 38 feet bgs (approximately 112 feet MSL) and corresponds to the Gaspur Aquifer (**Table 2**). Groundwater flow is towards the south-southwest at an approximate gradient of 0.001 feet per foot (ft/ft) (**Figure 5**). Due to the direction of groundwater flow, MW-1 is considered an up-gradient well since it is located on the northern boundary of the Site.

#### 4.3 Monitoring Well Soil Analyses Results

## 4.3.1 Total Petroleum Hydrocarbons (TPH) With Carbon Chain Distinction in Soil

A total of 18 soil samples were collected from boreholes MW-1 through MW-4 for TPH-carbon range (C7 to C36) analysis. A summary of the soil TPH analytical results is presented in **Table 3**. The distribution of TPH is depicted in **Figure 6** along with TPH results from previous investigations. Results from the 2006 investigation are highlighted to distinguish them from previous investigation results. TPH was detected in 15 of the 18 samples at concentrations ranging from 80 mg/kg (MW-3 at 15 feet bgs) to **4**,600 mg/kg (MW-1 at 35 feet bgs). The TPH detections were generally weighted towards the high carbon number compounds (C12 to C32). In all four monitoring wells, TPH concentrations were highest in the 35 feet bgs sample, which is consistent with residual LNAPL in the groundwater smear zone and the detections of LNAPL in all four wells (see **Section 4.4.1**). High TPH concentrations detected at 25 feet bgs probably represent LNAPL impacted groundwater impacting the capillary fringe. Analytical laboratory reports are included in **Appendix F**.

#### 4.3.2 VOCs in Soil

A total of 18 soil samples were collected from boreholes MW-1 through MW-4 for VOC analysis. A summary of soil VOC analytical results is presented in **Table 4**. The following VOCs were detected in soil samples collected during this investigation:

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- 1,1-Dichloroethane (1,1-DCA), detected in one soil sample at a concentration of 14 ug/kg in MW-4 at 15 feet bgs;
- 1,1-Dichloroethene (1,1-DCE), detected in one soil sample at a concentration of 7.4 ug/kg in MW-4 at 15 feet bgs;
- 1,2,4-Trimethylbenzene, detected in four soil samples at concentrations ranging from 4.8 ug/kg in MW-4 at 35 feet bgs to 1,500 ug/kg in MW-3 at 35 feet bgs;
- 1,3,5-Trimethylbenzene, detected in two soil samples at concentrations ranging from 5.3 ug/kg in MW-3 at 25 feet bgs to 120 ug/kg in MW-4 at 25 feet bgs;
- 2-Phenylbutane, detected in eleven soil samples at concentrations ranging from 6.5 ug/kg in MW-1 at 25 feet bgs to 1,400 ug/kg in MW-3 at 35 feet bgs;
- Benzene, detected in one soil sample at a concentration of 5.5 ug/kg in MW-4 at 35 feet bgs;
- n-Butylbenzene, detected in three soil samples at concentrations ranging from 3.8 ug/kg in MW-3 at 5 feet bgs to 9.2 ug/kg in MW-2 at 25 feet bgs;
- cis-1,2-Dichloroethene (cis-1,2-DCE), detected in six soil samples at concentrations ranging from 4.7 ug/kg in MW-2 at 5 feet bgs to 400 ug/kg in MW-4 at 15 feet bgs;
- Cymene, detected in seven soil samples at concentrations ranging from 4.2 ug/kg in MW-4 at 10 feet bgs to 280 ug/kg in MW-3 at 35 feet bgs;
- Dichloromethane, detected in two soil samples at concentrations ranging from 4.7 ug/kg in MW-3 at 15 feet bgs to 10 ug/kg in MW-3 at 5 feet bgs;
- Ethylbenzene, detected in seven soil samples at concentrations ranging from 6.9 ug/kg in MW-3 at 25 feet bgs to 2,600 ug/kg in MW-4 at 10 feet bgs;
- Isopropylbenzene, detected in eleven soil samples at concentrations ranging from 4.4 ug/kg in MW-3 at 15 feet bgs to 1,700 ug/kg in MW-3 at 35 feet bgs;
- Naphthalene, detected in twelve soil samples at concentrations ranging from 4.4 ug/kg in MW-4 at 35 feet bgs to 6,000 ug/kg in MW-3 at 35 feet bgs;
- n-propylbenzene, detected in eleven soil samples at concentrations ranging from 6.1 ug/kg in MW-3 at 15 feet bgs to 2,100 ug/kg in MW-3 at 35 feet bgs;
- Styrene (monomer), detected in one soil sample at a concentration of 4.4 ug/kg in MW-4 at 10 feet bgs;
- tert-Butylbenzene, detected in two soil samples at concentrations ranging from 4.5 ug/kg in MW-4 at 10 feet bgs to 9.2 ug/kg in MW-2 at 35 feet bgs;
- PCE, detected in five soil samples at concentrations ranging from 25 ug/kg in MW-4 at 25 feet bgs to 6,700 ug/kg in MW-4 at 15 feet bgs;

- trans-1,2-Dichloroethene (trans-1,2-DCE), detected in three soil samples at concentrations ranging from 5.8 ug/kg in MW-4 at 35 feet bgs to 360 ug/kg in MW-4 at 15 feet bgs;
- TCE, detected in five soil samples at concentrations ranging from 4.0 ug/kg in MW-3 at 15 feet bgs to 260 ug/kg in MW-4 at 15 feet bgs;
- VC, detected in two soil samples at concentrations ranging from 73 ug/kg in MW-4 at 10 feet bgs to 470 ug/kg in MW-4 at 15 feet bgs; and
- m&p-Xylene, detected in two soil samples at concentrations ranging from 6.6 ug/kg in MW-3 at 25 feet bgs to 66 ug/kg in MW-4 at 25 feet bgs.

The lateral distribution of PCE in soil is depicted on Figure 7. PCE was primarily detected in soil near the batch neutralization tanks (MW-4) at concentrations ranging from 25 ug/kg (at 25 feet bgs) to 6,700 ug/kg (at 15 feet bgs).

Breakdown products of PCE were also detected in the following areas:

- Near the former PCE AST (MW-2) at 5 feet bgs: TCE (7.6 ug/kg) and cis 1,2-DCE (4.7 ug/kg) only;
- The southern chemical storage area (MW-3) at 5 and 15 feet bgs: TCE (4.0 ug/kg) and cis 1,2-DCE (42 ug/kg) only; and
- Near the Batch Treatment Neutralization Tanks (MW-4) at various depths: TCE, cis 1,2-DCE, trans 1,2-DCE and VC.

Fuel VOCs were detected in all soil samples from MW-3 and MW-4 and in some samples from MW-1 and MW-2, particularly at 25 and 35 feet bgs. The highest fuel VOC concentrations were generally detected in soil collected from MW-3 at 35 feet bgs, where the following compounds were detected: 1,2,4-trimethylbenzene (1,500 ug/kg), 2-phenylbutane (1,400 ug/kg), cymene (280 ug/kg), isopropylbenzene (1,700 ug/kg), naphthalene (6,000 ug/kg) and n-propylbenzene (2,100 ug/kg). Ethylbenzene was detected in MW-4 at a concentration of 2,600 ug/kg ten feet bgs. Analytical laboratory reports are included in **Appendix F**.

#### 4.3.3 Metals in Soil

Soil samples were collected from boreholes MW-1 through MW-4 for metals analysis. A summary of metal analytical results for the 18 soil samples collected is presented in **Table 5**. Analytical laboratory reports are included in **Appendix F**. The following metals were detected in soil samples collected during this investigation:

- Arsenic, detected in 16 soil samples at concentrations ranging from 2.9 mg/kg in MW-1 at 25 feet bgs to 33 mg/kg in MW-2 at 5 feet bgs;
- Barium, detected in 18 soil samples at concentrations ranging from 32 mg/kg in MW-1 at 35 feet bgs to 220 mg/kg in MW-1 at 15 feet bgs;
- Total chromium, detected in 18 soil samples at concentrations ranging from 7.0 mg/kg in MW-1 at 35 feet bgs to 42 mg/kg in MW-1 at 10 feet bgs and MW-2 at 5 feet bgs;

- Hexavalent chromium, detected in three soil samples at concentrations ranging from of 0.69 mg/kg in MW-2 at 15 feet bgs to 1.1 mg/kg in MW-2 at 5 feet bgs;
- Cobalt, detected in 18 soil samples at concentrations ranging from 3.2 mg/kg in MW-3 at 35 feet bgs to 19.0 mg/kg in MW-1 at 15 feet bgs and MW-2 at 5 and 10 feet bgs;
- Copper, detected in 18 soil samples at concentrations ranging from 4.7 mg/kg in MW-1 at 35 feet bgs to 50 mg/kg in MW-2 at 10 feet bgs;
- Lead, detected in 18 soil samples at concentrations ranging from 1.4 mg/kg in MW-3 at 35 feet bgs to 10 mg/kg in MW-2 at 10 feet bgs;
- Nickel, detected in 18 soil samples at concentrations ranging from 5.0 mg/kg in MW-1 at 35 feet bgs to 30 mg/kg in MW-2 at 15 feet bgs and at MW-4 at 15 feet bgs;
- Selenium, detected in 16 soil samples at concentrations ranging from 2.0 mg/kg in MW-1 at 25 feet bgs and at MW-2 at 35 feet bgs to 5.1 mg/kg in MW-1 at 15 feet bgs;
- Vanadium, detected in 18 soil samples at concentrations ranging from 14 mg/kg in MW-3 at 35 feet bgs to 84 mg/kg in MW-1 at 15 feet bgs; and
- Zinc, detected in 18 soil samples at concentrations ranging from 15 mg/kg in MW-3 at 35 feet bgs to 90 mg/kg in MW-1 at 10 feet bgs.

#### 4.4 Groundwater Results

#### 4.4.1 LNAPL in Groundwater

During groundwater sampling, a sheen of LNAPL was detected in groundwater from all four monitoring wells.

#### 4.4.2 TPH With Carbon Chain Distinction in Groundwater

Groundwater samples were collected from monitoring wells MW-1 through MW-4 for TPH-carbon range (C7 to C36) analysis. A summary of TPH groundwater analytical results is presented in Table 6. TPH was detected in all four of the samples at concentrations ranging from 46 ug/L (MW-3) to 65 ug/L (MW-1) (Figure 8). The TPH detections were generally weighted towards the high carbon number compounds (C11 to C32). The highest TPH concentration was detected in groundwater from the upgradient well MW-1. Analytical laboratory reports are included in **Appendix F**.

#### 4.4.3 VOCs in groundwater

Groundwater samples were collected from monitoring wells MW-1 through MW-4 for VOC analysis. A summary of VOC analytical results for the four groundwater samples collected is presented in Table 7. The following VOCs were detected in groundwater samples collected during this investigation:

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- 1,1-Dichloroethane (1,1-DCA), detected in one groundwater sample at a concentration of 1.1 ug/L in MW-2;
- 1,2,4-Trimethylbenzene, detected in one groundwater sample at a concentration of 23 ug/L in MW 3:
- 1,3,5-Trimethylbenzene, detected in one groundwater sample at a concentration of 6.3 ug/L in MW 3:
- Benzene, detected in four groundwater samples at concentrations ranging from 1.3 ug/L in MW-1 to 3.6 ug/L in MW-4;
- 2-Pheylbutane, detected in three groundwater samples at a concentration of 16 ug/L in MW-2, MW-3 and MW-4;
- tert-Butylbenzene, detected in two groundwater samples at concentrations of 1.6 ug/L in MW-1 and 1.9 ug/L in MW-2;
- cis-1,2-Dichloroethene (cis-1,2-DCE), detected in one groundwater sample at a concentration of 5.5
   ug/L in MW-1;
- trans-1,2-Dichloroethene (trans-1,2-DCE), detected in one groundwater sample at a concentration
  of 5.2 ug/L in MW-1;
- Ethylbenzene, detected in two groundwater samples at concentrations of 1.5 ug/L in MW-4 and 21 ug/L in MW-3;
- Isopropylbenzene, detected in four groundwater samples at concentrations ranging from 1.9 ug/L in MW-1 to 86 ug/L in MW-4;
- Cymene, detected in four groundwater samples at concentrations ranging from 1.4 ug/L in MW-3 to 4.1 ug/L in MW-2 and MW-4;
- Methyl tert-butyl ether, detected in four groundwater samples at concentrations ranging from 1.9 ug/L in MW-3 to 8.9 ug/L in MW-1;
- Naphthalene, detected in four groundwater samples at concentrations ranging from 1.6 ug/L in MW-1 to 46 ug/L in MW-3;
- n-Propylbenzene, detected in three groundwater samples at concentrations ranging from 9.4 ug/L in MW-2 to 22 ug/L in MW-3;
- PCE, detected in one groundwater sample at a concentration of 2,7 ug/L in MW-4;
- TCE, detected in one groundwater sample at a concentration of 1.3 ug/L in MW-1;
- VC, detected in four groundwater samples at concentrations ranging from 20 ug/L in MW-1 to 57 ug/L in MW-4;
- m&p-Xylene, detected in one groundwater sample at a concentration of 28 ug/L in MW-3; and
- o-Xylene, detected in one groundwater sample at a concentration of 2.6 ug/L in MW-3.

The lateral distribution of PCE, TCE, cis-1,2-DCE, and VC are depicted on **Figure 9.** Analytical laboratory reports are included in **Appendix F**.

#### 4.4.4 Metals in Groundwater

Groundwater samples were collected from monitoring wells MW-1 through MW-4 for metals analysis. A summary of metal analytical results for the four groundwater samples collected is presented in **Table 8**. Analytical laboratory reports are included in **Appendix F**. The following metals were detected in groundwater samples collected during this investigation:

- Antimony, detected in one groundwater sample at a concentration of 0.024 mg/L in MW-4;
- Arsenic, detected in two groundwater samples at concentrations of 0.11 mg/L in MW-4 and 0.14 mg/L in MW-3;
- Barium, detected in four groundwater samples at concentrations ranging from 0.65 mg/L in MW-1 to 3.2 mg/L in MW-3;
- Total chromium, detected in four groundwater samples at concentrations ranging from 0.059 mg/L in MW-1 to 0.19 mg/L in MW-4;
- Hexavalent chromium, detected in two groundwater samples at concentrations ranging from 0.0024 mg/L in MW-2 to 0.0047 mg/L in MW-1;
- Cobalt, detected in four groundwater samples at concentrations ranging from 0.032 mg/L in MW-1 to 0.11 mg/L in MW-3;
- Copper, detected in four groundwater samples at concentrations ranging from 0.092 mg/L in MW-1 to 0.095 mg/L in MW-4;
- Lead, detected in four groundwater samples at concentrations ranging from 0.04 mg/L in MW-1 to 0.19 mg/L in MW-4;
- Mercury, detected in one groundwater sample at a concentration of 0.00079 mg/L in MW-3;
- Nickel, detected in four groundwater samples at concentrations ranging from 0.044 mg/L in MW-1 to 0.15 mg/L in MW-4;
- Vanadium, detected in four groundwater samples at concentrations ranging from 0.16 mg/L in MW-1 to 0.40 mg/L in MW-3; and
- Zinc, detected in four groundwater samples at concentrations ranging from 0.15 mg/L in MW-1 to 0.47 mg/L in MW-3.

#### 4.5 Soil Gas Results

#### 4.5.1 TPH in Soil Gas

A summary of the TPH analytical results for the soil gas samples is presented in **Table 9**. TPH was detected in both B-47 and B-48 at concentrations of 26,000 ug/L and 12,000 ug/L, respectively. TPH concentrations from this investigation were depicted on **Figure 10** along with TPH concentrations from the September 2004 soil gas survey. Analytical laboratory reports are included in **Appendix F**.

#### 4.5.2 VOCs in Soil Gas

A summary of VOC analytical results for the soil gas samples collected during this investigation is presented in **Table 9**. Analytical laboratory reports are included in **Appendix F**. The following VOCs were detected in soil gas samples collected at 5 feet bgs during this investigation:

- cis-1,2-DCE, detected in two soil gas samples at concentrations ranging from 4.0 ug/L in B-47 to 7.3 ug/L in B-48;
- Methylene chloride, detected in two soil gas samples at concentrations ranging from 8.1 ug/L in B-48 to 11 ug/L in B-47;
- PCE, detected in one soil gas sample at a concentration of 9.1 ug/L in B-48;
- TCE, detected in one soil gas sample at a concentration of 15 ug/L in B-48;
- VC, detected in two soil gas samples at concentrations ranging from 32 ug/L in B-48 to 35 ug/L in B-47.

PCE and TCE concentrations from this soil gas survey are depicted on Figure 11 along with PCE and TCE concentrations from the September 2004 soil gas survey.

#### 4.6 Shallow Soil Results

#### 4.6.1 TPH in Shallow Soil

A total of three soil samples were collected from borehole B-49 for TPH analysis. A summary of the TPH analytical results for borehole B-49 is presented in **Table 3**. TPH was detected in one sample at a concentration of 170 mg/kg in soil collected at 4 feet bgs (**Figure 6**). The TPH detections were weighted towards the high carbon number compounds (C18-C36). Analytical laboratory reports are included in **Appendix F**.

#### 4.6.2 VOCs in Shallow Soil

A total of three soil samples were collected from borehole B-49 for VOC analysis. A summary of the VOC analytical results for borehole B-49 is presented in Table 4. PCE was detected in two samples at concentrations of 6.2 ug/kg (4 feet bgs) and 64 ug/kg (1 foot bgs) (Figure 7). TCE was detected in one sample at a concentration of 7.9 at 1 foot bgs. No other VOCs were detected above the laboratory

reporting limits for soil collected from borehole B-49. Analytical laboratory reports are included in **Appendix F**.

#### 4.6.3 Metals in Shallow Soil

A total of three soil samples were collected from borehole B-49 for metals analysis. A summary of the metals analytical results for borehole B-49 is presented in **Table 5**. Analytical laboratory reports are included in **Appendix F**. The following metals were detected in soil samples collected during this investigation:

- Arsenic, detected in 3 soil samples at concentrations ranging from 14 mg/kg at 4 feet bgs to 35 mg/kg at 1 foot bgs;
- Barium, detected in 3 soil samples at concentrations ranging from 160 mg/kg at 4 feet bgs to 200 mg/kg at 1 foot bgs;
- Total chromium, detected in 3 soil samples at concentrations ranging from 32 mg/kg at 4 feet bgs to 38 mg/kg at 1 foot bgs;
- Hexavalent chromium, detected in three soil samples at concentrations ranging from 0.28 mg/kg at 7 feet bgs to 0.63 mg/kg at 4 feet bgs;
- Cobalt, detected in three soil samples at concentrations ranging from 14 mg/kg at 4 and 7 feet bgs to 17 mg/kg at 1 foot bgs;
- Copper, detected in three soil samples at concentrations ranging from 37 mg/kg at 1 and 7 feet bgs to 39 mg/kg at 4 feet bgs;
- Lead, detected in three soil samples at concentrations ranging from 6.3 mg/kg at 7 feet bgs to 22 mg/kg at 4 feet bgs;
- Nickel, detected in three soil samples at concentrations ranging from 19 mg/kg at 4 feet bgs to 25 mg/kg at 1 foot bgs;
- Vanadium, detected in three soil samples at concentrations ranging from 54 mg/kg at 4 and 7 feet bgs to 62 mg/kg at 1 foot bgs;
- Zinc, detected in three soil samples at concentrations ranging from 63 mg/kg at 7 feet bgs to 76 mg/kg at 1 foot bgs.

#### 4.7 Quality Assurance/Quality Control (QA/QC) Sample Results

#### 4.7.1 QA/QC Soil Results During Well Installation

A summary of the field QA/QC sample results for the analysis of TPH, VOCs and metals is presented in **Table 10**. Analytical laboratory reports are included in **Appendix F**. TPH and VOCs were not detected in any of the field or equipment blanks during well installation. Chromium, copper, lead and zinc were

detected in the field blank collected on April 5, 2006 at concentrations of 0.0076 mg/L, 0.17 mg/L, 0.033 mg/L and 0.14 mg/L, respectively. The lowest chromium, copper, lead and zinc concentrations detected in soil samples on April 5, 2006 were 7.0 mg/kg, 4.7 mg/kg, 1.6 mg/kg, and 16 mg/kg, respectively. The metal concentrations detected in the field blank; therefore, are considered insignificant compared to the metal concentrations detected in soil samples. On April 5, 2006, chromium was detected at a concentration of 0.0087 mg/L in the equipment blank, which is insignificant compared to the lowest chromium concentration (7.0 mg/kg) detected in soil samples on April 5, 2006. Metals were not detected in the equipment or field blanks collected on April 6, 2006.

Soil laboratory QA/QC samples for TPH and VOCs were all within the acceptable levels. Soil laboratory QA/QC samples for metals analysis were generally within acceptable levels; however, there were a few exceptions. Two antimony matrix spikes and matrix spike duplicates were slightly below the acceptable recovery levels; however, the QA/QC results were acceptable since the blank sample and the laboratory control sample were within acceptable levels. Several mercury matrix spike and matrix spike duplicates were slightly above the acceptable levels; however, the QA/QC results were acceptable since the blank sample and the laboratory control sample were within acceptable levels. A few hexavalent chromium matrix spike samples were also above acceptable levels; however, the QA/QC results were generally acceptable since the blank samples and the laboratory control samples were within acceptable levels.

#### 4.7.2 QA/QC Groundwater Results

Groundwater laboratory QA/QC samples for TPH, VOCs and metals were all within the acceptable levels. TPH, VOCs and metals were not detected in any of the field, equipment or trip blanks collected on April 12, 2006. Analytical laboratory reports are included in **Appendix F**.

#### 4.7.3 QA/QC Shallow Soil Results

TPH, VOCs, and metals were not detected in any of the field, equipment, or trip blanks collected on April 17, 2006 during the advancement of borehole B-49. Soil laboratory QA/QC samples for TPH and VOCs were all within the acceptable levels. Soil laboratory QA/QC samples for metals analysis were generally within acceptable levels; however, there were a few exceptions. One antimony matrix spike and matrix spike duplicate were slightly below the acceptable recovery levels; however, the QA/QC results were acceptable since the blank sample and the laboratory control sample were within acceptable levels. In one matrix spike, arsenic, barium, beryllium, cadmium, cobalf, copper, selenium, and zinc were slightly above the acceptable levels; however, the QA/QC results were acceptable since the blank sample, the laboratory control sample and the matrix spike duplicate all were within acceptable levels. One hexavalent chromium matrix spike and matrix spike duplicate samples were slightly below acceptable recovery levels; however, the QA/QC results were generally acceptable since the blank samples and the laboratory control samples were within acceptable levels. Analytical laboratory raports are included in Appendix F.

#### 4.7.4 QA/QC Soil Gas Results

On April 17, 2006, two soil gas samples were collected from locations B-47 and B-48. A field (ambient) blank sample was collected in an 1-liter Summa canister on-site and toluene was detected at a concentration of 0.023 ug/L. No other VOCs were detected in the field sample. All laboratory QA/QC results for TPH and VOCs (TO-14A) were within acceptable levels. Analytical laboratory reports are included in **Appendix F**.

#### DISCUSSION

The results from the WorleyParsons Komex investigation conducted in April 2006 and the human health risk assessment are summarized and discussed below.

#### 5.1 TPH

#### 5.1.1 TPH with Carbon Chain Distinction in Soil

TPH was generally detected at all sample depths (5, 10, 15, 25, and 35 feet bgs) and in all boreholes (Figure 5). The highest TPH concentrations (between 2,800 and 4,600 mg/kg) were detected at 35 feet bgs in each borehole. High TPH concentrations in the groundwater smear zone soils in all four boreholes are consistent with migration of petroleum hydrocarbons through groundwater. Most of the soil samples from this investigation had a wide range of hydrocarbons, which were generally weighted towards the higher carbon number compounds (C12 to C36). Comparison of laboratory standard chromatographs and sample result chromatographs indicated that the results were consistent with diesel and motor oil range hydrocarbons. The petroleum hydrocarbons detected in soil samples collected from 5 to 35 feet bgs are not consistent with materials used or produced at the APC facility, and probably represent pre-existing oil production facility waste in the fill material, or diesel fuel that migrated through soil and/or groundwater from the nearby Unocal, Dayton, or Valvoline facilities (Figure 2).

#### 5.1.2 TPH in Groundwater

TPH was detected in groundwater collected from all four monitoring wells (**Figure 8**). The highest concentration of TPH was detected in groundwater collected from upgradient well MW-1. TPH is groundwater is most likely from either pre-existing oil production facility waste in the fill material at APC, or from diesel fuel that migrated through soil and/or groundwater from nearby facilities.

#### 5.1.3 TPH in Soil Gas

TPH concentrations in soil gas increase towards the northern boundary of the facility. Since petroleum hydrocarbons are not consistent with materials used or produced at the APC facility and concentrations increase adjacent to the northern boundary of the site, there may be a source of the TPH originating off-site (Figure 10).

#### 5.1.4 Human Health Risk Assessment for TPH

Since TPH is a non-carcinogen, the risk associated with exposure to TPH was accessed according to the hazard index, in which the target hazard level is one. According to the human health risk assessment, the hazard index for dermal and oral exposure to TPH concentrations detected beneath the Site is less than one (Appendix A).

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#### 5.2 VOCs

#### 5.2.1 VOCs in Soil and Groundwater

PCE and its degradation products were not detected in soil collected from borehole MW-1. However, TCE, cis-1,2-DCE, and VC were detected in groundwater collected from well MW-1. Therefore, it is most likely that groundwater upgradient (off-site to the northeast) is impacting groundwater on the APC property.

In the vicinity of the former AST (MW-2), PCE, TCE and cis-1,2-DCE were detected at 5 feet bgs; however, PCE and its degradation products were not detected in any of the soil samples collected from below a depth of 5 feet. In addition, PCE, TCE and cis-1,2-DCE were not detected in groundwater collected from well MW-2. Vinyl chloride was detected in groundwater collected from well MW-2. Detection of PCE and its breakdown products at 5 feet bgs indicate that there is a minor shallow source of contamination that is most likely associated with the former PCE AST. However, the AST was removed approximately six years ago, and PCE and its degradation products do not appear to have migrated vertically, since they were not detected below a depth of 5 feet. Since groundwater upgradient of well MW-2 contains TCE, cis-1,2-DCE and VC, the most likely source of VC in groundwater collected from well MW-2 is due to the degradation of the PCE plume upgradient.

In the vicinity of the central chemical storage area (MW-3), TCE and cis-1,2-DCE were detected at 5 and 15 feet bgs. PCE and its degradation products were not detected below a depth of 15 feet. In addition, PCE, TCE and cis-1,2-DCE were not detected in groundwater collected from well MW-3. VC was detected in MW-3 at a concentration of 53 ug/L. Detections of TCE and cis-1,2-DCE in relatively shallow soil indicate there was a minor former source of PCE in this area; however, the contamination is less than 50 ug/kg at 5 feet bgs and does not appear to have migrated below a depth of 15 feet. The detection of VC in groundwater is most likely due to the degradation of a PCE dissolved phase plume originating upgradient.

In the vicinity of the batch neutralization tanks (MW-4), PCE and its breakdown projects were detected in soil from 10 to 35 feet bgs. PCE and VC were detected in groundwater collected from well MW-4. PCE was detected at a concentration of 2.7 ug/L, which is below the California Department of Health Services (DHS) allowable maximum contaminant level (MCL) of 5 ug/L for drinking water. PCE in groundwater is most likely due to an on-site source in the vicinity of the batch neutralization tanks. VC was detected in well MW-4 at a concentration of 57 ug/L, which is above the MCL; however, the Gaspur Aquifer is not used for drinking water in this area due to the industrial nature of Santa Fe Springs.

#### 5.2.2 VOCs in Soil Gas

Additional soil gas samples were collected in the northern area of the Site (B-47 and B-48). The northern section of the PCE soil gas plume is now adequately delineated since PCE was not detected at location B-47. In addition, PCE was detected at a much lower concentration (8.82 ug/L) from location B-48 located to the north of B-37 where PCE was previously detected at a concentration of 98 ug/L.

#### 5.2.3 Human Health Risk Assessment for VOCs

#### Carcinogenic VOCs

Carcinogenic VOCs were assessed based on the risk of developing cancer and are expressed in the form X 10°, meaning there is a risk of 1 in 100,000 people developing cancer due to exposure to a particular carcinogenic compound. The USEPA's safe and protective of public health risk range is 1 X 10° to 1 X 10° (Federal Register 56(20):3535, 1991). The target risk range is 1 X 10° According to the human health risk assessment, the estimated risk due to ingestion or dermal exposure to carcinogenic VOCs detected beneath the Site was 1.08 X 10° which is below the target risk of 1 X 10° The estimated risk due to inhalation of carcinogenic VOCs detected in soil gas beneath the Site was 1.36 X 10° which exceeds the target risk of 1 X 10° to VC concentrations. The maximum concentration of VC detected in soil gas was 210 ug/L at location B-17, which is located near the batch neutralization tanks. The human health risk assessment assesses inhalation exposure based on the soil gas concentrations migrating upward into a hypothetical building. It should be pointed out that location B-17 is not located within a building and has a surface cap of 3 feet of concrete, both of which would most likely reduce the actual risk associated with inhalation. The estimated risk due to inhalation exposure of carcinogenic VOCs based on volatilization of VOCs detected in groundwater beneath the Site was 7.65 X 10° k, which is below the target risk of 1 X 10° (Appendix A).

#### Non-carcinogenic VOCs

According the human health risk assessment, the estimated hazard quotients due to oral and dermal exposure to non-carcinogenic VOCs detected in soil beneath the Site were all less than the target hazard level of one. The estimated hazard quotients due to inhalation exposure of non-carcinogenic VOCs detected in soil gas and groundwater were all below the target hazard level of one (**Appendix A**).

#### 5.3 Metals

#### 5.3.1 Metals in Soil

The following metals were detected in soil during the April 2006 investigation: arsenic, barium, total chromium, hexavalent chromium, cobalt, copper, lead, nickel, selenium, vanadium, and zinc.

Concentrations of arsenic, barium, total chromium, cobalt, copper, vanadium, and zinc detected in soil beneath the Site were within background concentrations according to soil samples collected at the St. Paul's High School and according to a study of southern California soils conducted by Marrett et al. (1992) (Table 5). Nickel concentrations (5 to 30 mg/kg) detected in soil beneath the Site were slightly higher than background concentrations according to Marrett et al (3.5 to 28.2 mg/kg). Selenium concentrations (2 to 5.1 mg/kg) detected in soil beneath the Site were higher than background concentrations collected at the St. Paul's High School (0.20 to 0.28 mg/kg). Soil samples were not analyzed by Marrett et al for selenium. Hexavalent chromium was detected in soil beneath the Site at concentrations ranging from 0.28 to 1.1 mg/kg. Background levels of hexavalent chromium were not available for the St. Paul's High School or from Marrett et al.

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#### 5.3.2 Metals in Groundwater

On April 12, 2006, groundwater samples were collected from monitoring wells MW-1 through MW-4 for metals analysis. The following metals were detected in groundwater beneath the Site: antimony, arsenic, barium, chromium, hexavalent chromium, cobalt, copper, lead, mercury, nickel, vanadium and zinc (**Table 7**). Antimony, arsenic, barium, chromium, lead and nickel were detected at concentrations slightly above the MCLs. The MCLs for drinking water for these compounds are as follows:

- Antimony 0.006 mg/L;
- Arsenic 0.05 mg/L;
- Barium 1.0 mg/L;
- Chromium 0.05 mg/L;
- Lead 0.015 mg/L; and
- Nickel –0.1 mg/L.

These concentrations are most likely due to the natural levels of metals existing in the soil on the site and pose little threat to human health as groundwater beneath the Site is not used for drinking water.

#### 5.3.3 Human Health Risk Assessment for Metals

#### Carcinogenic Metals

According to the results of the human health risk assessment, the risk of oral and dermal exposure to carcinogenic metals detected beneath the Site was 2.43 x 10<sup>-4</sup>, which is within the USEPA's safe and protective risk range, but above the target risk of 1 x 10<sup>-5</sup>, due to arsenic. Arsenic was never used on-site for processing, or created as a waste by-product. Arsenic occurs naturally in soils throughout southern California and concentrations detected beneath the Site are typical of background concentrations (Marrett, 1992). Furthermore, the oral and dermal exposure scenario assumes a child and an adult are onsite consuming soil for 350 days for six and 24 years, respectively. Since the site is currently an operating industrial facility, which is mostly paved, the likelihood of this exposure route is very low. According to the risk assessment, the risk associated with inhalation of carcinogenic metals detected beneath the Site was was 7.64 x 10<sup>-6</sup>, which is below the target risk of 1 x 10<sup>-5</sup> (**Appendix A**).

#### Non-carcinogenic Metals

According to the human health risk assessment, the risk of oral and dermal exposure to non-carcinogenic metals detected beneath the Site is less than the hazard target level of one, with the exception of thallium. The thallium hazard quotient was 1.4; however, thallium was never used in processing operations or produced as a waste by-product. Therefore, thallium most likely occurs naturally in the soil and its hazard quotient most likely represents the conservative nature of the human health risk assessment. The risks of inhalation exposure to non-carcinogenic metals detected beneath the Site are all below the target hazard

level of one. According to the human health risk assessment, dermal, oral, or inhalation exposure to groundwater containing metals was not considered a complete pathway since groundwater at the Site is encountered at 34 feet bgs and drinking water is provided by a remote municipal water supply (**Appendix A**).

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#### 6. CONCLUSIONS AND RECOMMENDATIONS

#### 6.1 Conclusions

- TPH concentrations in soil, soil gas, and groundwater beneath the Site are below the target hazard level of one;
- PCE in soil gas is adequately delineated in the northern area of the Site;
- PCE in soil and groundwater detected in samples collected from well MW-4 are most likely due to an on-site source in the vicinity of the batch neutralization tanks;
- VC concentrations detected in groundwater from wells MW-1 through MW-3 are most likely due to an off-site source;
- VC concentrations detected in groundwater from well MW-4 could be due to an off-site source or due the degradation of PCE from an on-site source in the vicinity of the batch neutralization tanks;
- For dermal and oral exposure, carcinogenic and non-carcinogenic VOCs detected beneath the Site are below the target risk of 1 X 10<sup>-5</sup> and the target hazard level of one, respectively:
- Non-carcinogenic VOCs detected beneath the Site are below the hazard level of one for inhalation exposure;
- Carcinogenic VOC concentrations detected in soil gas beneath the Site exceed the target risk of 1 X 10<sup>-5</sup> for inhalation exposure due to VC concentrations. The maximum concentration of VC detected in soil gas was 210 ug/L at location B-17, which is located near the batch neutralization tanks. The human health risk assessment assesses inhalation exposure based on the soil gas concentrations migrating upward into a hypothetical building. It should be pointed out that location B-17 is not located within a building and has a surface cap of 3 feet of concrete, both of which most likely would reduce the actual risk associated with inhalation;
- Carcinogenic metals detected in soil gas beneath the Site are within the USEPA's safe and protective risk range of 1 X 10<sup>-4</sup> to 1 X 10<sup>-6</sup>; however, it exceeds the target risk of 1 X 10<sup>-5</sup> for oral and dermal exposure due to arsenic concentrations. Arsenic was never used on-site for processing or created as a waste by-product. Arsenic occurs naturally in soils throughout southern California and concentrations detected beneath the Site were typical of background concentrations (Marrett, 1992). Furthermore, the oral and dermal exposure assumes a child and an adult are onsite consuming soil for 350 days for six and 24 years, respectively. Since the site is currently an operating industrial facility, which is mostly paved, the likelihood of this exposure route is very low;
- Carcinogenic metals detected beneath the Site were below the target risk level of 1 X 10<sup>-5</sup> for inhalation exposure;
- Non-carcinogenic metals were below the target hazard level of one, with the exception of thallium for oral and dermal exposure. The thallium hazard quotient was 1.4; however, thallium was never

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used in processing operations or produced as a waste by-product. Therefore, the hazard quotient for thallium most likely represents the conservative nature of the human health risk assessment; and

 Non-carcinogenic metals detected beneath the Site are all below the target hazard level of one for inhalation exposure.

#### 6.2 Recommendations

Possible mitigation efforts and confirmatory sampling should be investigated in the vicinity of soil gas location B-17, where VC concentrations exceeded the target risk due to inhalation of 1 X 10<sup>-5</sup>.

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#### 7. LIMITATIONS

This report has been prepared for the exclusive use of Associated Plating Company (APC) as it pertains to the subsurface investigation performed at the APC metal plating facility in the City of Santa Fe Springs, California. Our services were performed using that degree of care and skill ordinarily exercised under similar circumstances by reputable qualified environmental consultants practicing in this or similar locations. No other warranty, either expressed or implied, is made as to the professional advice included in this report. These services were performed consistent with our agreement with our client.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We do not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report.

With regard to geologic/hydrogeologic/contaminant conditions, our professional opinions are based in part on interpretation of data from discrete sampling locations. It should be noted that actual conditions at unsampled locations may differ from those interpreted from sampled locations.

Respectfully Submitted, WorleyParsons Komex

Lee Paprody

Jumb Turk

Lee Paprocki, P.G. Project Manager

Senior Review by

Mark Ausburn Project Director

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### **Tables**

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TABLE 1
MONITORING WELL CONSTRUCTION DETAILS
ASSOCIATED PLATING COMPANY

Well ID	Drilling Method	Installation Date	Well Casing Diameter (inches)	Latitude	Longitude	Well Head Elevation (feet amsl)	Top of Casing Elevation (feet amsl)	Well Depth (feet bgs)	Well Depth (feet amsl)	Screen Slot Size (inches)	Screened Interval (feet bgs)	Screened Interval (feet amsl)
MW-1	HSA	4/5/2006	2	33.9527753	-118.0592514	147.36	146.93	43.0	103.9	0.01	33 to 43	114.35 to 104.35
MW-2	HSA	4/5/2006	2	33.9524570	-118,0592008	149.81	149.41	47.0	102.4	0.01	37 to 47	112.79 to 102.79
MW-3	HSA	4/6/2006	2	33.9523123	-118.0593085	151.06	150.67	47.0	103.7	0.01	37 to 47	114.04 to 104.04
MW-4	HSA	4/6/2006	2	33.9522795	-118.0594930	151.13	150.77	47.0	104.1	0.01	37 to 47	114.13 to 104.13

NOTES:

<sup>1)</sup> amsi = above mean sea level

<sup>2)</sup> bgs = below ground surface

<sup>3)</sup> HSA = hollow stem auger

# TABLE 2 GROUNDWATER ELEVATIONS ASSOCIATED PLATING COMPANY

Well ID	Top of Casing Elevation (feet amsl)	Depth to groundwater (feet btoc)	Groundwater Surface Elevation (feet amsl)	Date
MW-1	146.93	34.33	112.60	4/12/2006
MW-2	149.41	36.87	112.54	4/12/2006
MW-3	150.67	38.20	112.47	4/12/2006
MW-4	150.77	38.36	112.41	4/12/2006

#### NOTES:

- 1) amsl = above mean sea level
- 2) btoc = below top of casing
- 3) bgs = below ground surface

TABLE 3
TPH CARBON RANGE SOIL RESULTS
ASSOCIATED PLATING COMPANY

	Location	MW-1	MW-1	MW-1	MW-4	MW-4	B-49	B-49	B-49
	Sample ID	MW1-4506-1-5	MW1-4506-2-10	MW1-4506-3-15	MW4-4606-3-25	MW4_4606-4-35	B49-41706-1-1	B49-41706-2-4	B49-41706-3-7
	Depth (ft bgs)	5	10	15	25	35	1	4	7
Analyte	Date	4/5/2006	4/5/2006	4/5/2006	4/6/2006	4/6/2006	4/17/2006	4/17/2006	4/17/2006
<c8< td=""><td>mg/kg</td><td>&lt;1.0</td><td>&lt;1.0</td><td>1.2</td><td>&lt;1.0</td><td>&lt;10</td><td>&lt;1.0</td><td>&lt;1.0</td><td>&lt;1.0</td></c8<>	mg/kg	<1.0	<1.0	1.2	<1.0	<10	<1.0	<1.0	<1.0
C8-C9	mg/kg	<1.0	<1.0	1.0	1.0	<10	<1.0	<1.0	<1.0
C9-C10	mg/kg	<1.0	<1.0	6.4	10	<10	<1.0	<1.0	<1.0
C10-C11	mg/kg	<1.0	<1.0	8.6	14	21	<1.0	<1.0	<1.0
C11-C12	mg/kg	<1.0	<1.0	12	21	46	<1.0	<1.0	<1.0
C12-C14	mg/kg	<1.0	<1.0	39	66	220	<1.0	<1.0	<1.0
C14-C16	mg/kg	2.0	<1.0	57	80	330	<1.0	<1.0	<1.0
C16-C18	mg/kg	4.2	<1.0	61	49	330	<1.0	<1.0	<1.0
C18-C20	mg/kg	5.4	<1.0	44	31	250	<1.0	4.9	<1.0
C20-C24	mg/kg	21	<1.0	87	58	400	<1.0	17	<1.0
C24-C28	mg/kg	68	<1.0	99	90	540	<1.0	62	<1.0
C28-C32	mg/kg	. 64	<1.0	110	74	610	<1.0	81	<1.0
>C32	mg/kg	4.8	<1.0	5.9	3.8	48	<1.0	4.6	<1.0
Total C7-C3	6 mg/kg	170	<5.0	530	500	2,800	<5.0	170	<5.0

- 1. TPH = Total potroicum hydrocarbons (carbon range) analyzed using EPA Mel
- 2. ft bgs = Feet below ground surface
- 3. mg/kg = Milligrams per kilogram
- 4. <1.0 = Compound not detected at or above the indicated laboratory reporting [
- 5. Bold type Indicates compound was detected

TABLE 4

VOC SOIL RESULTS
ASSOCIATED PLATING COMPANY

	Location	MW-1	MW-1	MW-4	MW-4	MW-4	B-49	B-49	5-49
	Sample ID						B49-41708-1-1	349-41706-2-4	B49-41708-3
	Depth (fi bgs)	5 */5/2000	10	15	25	35	1/47/2000	4/4 7/10/000	7
Analyte	Data	4/5/2006	4/5/2006	4/5/2006	4/6/2006	4/6/2006	4/17/2006	4/17/2006	4/17/2008
1,1,1,2-Telrachloroethene	ug/kg	<4.5	<4.5	<4.3	<4.3	<4.2	<5.0	<5.0	<5.0
1,1-Trichloroethane	ug/kg	<4.5	<4.5	<4.3	<4.3	54.2	<5,0	<5.0	<5.0
,1,2,2-Talrachloroethane	ug/kg	<4.5	<4.5	<4.3	<4,3	<4.2	<5.0	<5,0	<b>≼5.0</b>
1,1,2-Trichkroethane	Ug/kg	<4.5	<4.5	<43	<4.3	<4.2	<50	<5.0	<5.0
1,1-Dichlaroethene	ug/kg	<4.5	<4.5	<47	<4.3	<4.2	<5.0	<5.0	<5.0
1,1-Bichlorgethene	ug/kg	<4.5	<4.5	<44	<4.3	<4.2	<5,0_	<5.Q	<5.0
1,1-Dichioropropylene	na/ka	<4.5	<4,5	<4.3	<4.3	. <4.2	<5.0	<5,0	<5.0
1.2,3-Trichlorobenzene	ug/ky	<4.6	<4.6	<4.3	<4.3	<4.2	<5.0	<5.0	<5.0
1,2,S-Trichloropropane	Lig/kg	<4.5	<4.5	<4,3	<4,3	<4.2	<50	<5.0	<5.0
1,2,4-Trichiprobenzene	Lig/kg	<4.5	<4.5	<4.3	<4.3	<4.2	<5.0	0.č>	<5.0
1,2,4-Trimethylbenzene	ug/kg	<4.5	<4.5	<4.3	10	4.8	<5.0	<5.0	<5.0
1,2-Dibromo-3-Chloropropane (DBCP)	ug/kg	<4.5	<4.5	<4.3	<4.3	<4.2	<5.0	<5.0	<5.0
1.2-D/bromoethene	ug/kg	<4.5	<4.5	<4.3	<4.3	<4.2	<5.0	<5.0	<5.0
2-Dichlorobenzene	ug/kg	<4.5	<4.5	<4.3	<4.3	<4.Z	<5.0	₹5.0	<5.0
1,2-Dichlomethane	Lig/kg	<1.5	<4.5	<4.3	<4.3	<4.2	<5.0	<5.0	<5.0
1,2-Dichleropropana	ug/kg	<4.5	<4.5	<4.3	<4.3	<4.2	<50	<5.0	< 6.0
1.3.5-Trimethylbenzene	ug/kg	<4.5	<4.5	<4,3	120	<4.2	<5.0	<5.0	<5.0
1,3-Dichiompropane	ug/kg	<4.5	<4.5	<4.3	<43	<42	<5.0	<5.0	<5,0
1,4-Dichloroparizene	ug/kg	<4.5	<4.5	<4.3	<4.3	<4.2	<5.0	<5.0	<5.0
2.2-Dichloropronane	ug/kg	<4.5	<4.5	<4.3	<4.3	<4.2	<5.0	<5.0	<5,0
2-Chlorotoluane	ug/kg	<4.5	<4.5	<4.3	<4.3	<4.2	<5.0	<5.0	<5.0
		<4.5	<4.5	19</td <td></td> <td></td> <td></td> <td></td> <td></td>					
2-Phenylbutana 4-Chlorotoluena	ug/kg /	<4.5	<4.5	<4.3	14 <4.3	78 <4,2	<5.0 <5.0	<5.0 <5.0	<6.0
			c4.5	<4.3	- 16				<5.0
Benzaha	ug/kg	<4.5		<4.3	<4.3	5.5	<5.0	<5.0	<5.0
Bromobenzene	ug/kg	<4.5	<4,5		<4,3	<4.2	<5.0	<5.0	<5.0
Bromodichloromethers	паука	<4.5	<4.5	<43	<4.3	₹4.2	<5.0	<5.0	<5.0
Bromomathane	ug/kg	<4.€	<4.5	<4[3	<4.3	<4.2	<5.0	<5,0	<5.0
Bulyibenzéria,n-	sig/kg	<4.5	<4.5	c4 3	<4.3	<4.3	<6.0	<5.0	<5,0
Carbon Tetrachionde	ug/kg	<4.5	<4.5	<4.3	<4.3	<4.2	<5.0	<5/a	<6.0
DSO-11	ug/kg	<4.5	<4.5	<4 3	<4.3	44.2	<5.6	<5.0	<5,0
CFC-12	пауев	C4.5	<4,5	<4,3	<4.3	<4.2	<5,0	<5.0	<5.0
Chloroberizano	ug/kg	<4.5	<4.5	<4.3	<4.3	<4.2	55.0	<5.0	<5.0
Chlorobromomethane	ug/kg	<4.5	<4.5	<4,3	<4,3	<4.2	<5.0	<5.0	<5.0
Chlorodibromomethane	ug/kg	<4.5	<4.5	<4,3	<43	<4.2	<5.0	<b>≺5.</b> 0	<5.0
Chloroethane	ug/kg	<4.€	<4,5	<4.3	<4.3	₹4.2	<5.0	<5.0	<5.0
Chloroform	ug/kg	<4,5	<4.5	<4 <u>/</u> 3	<4.3	<4.2	<5.0	<5.0	<5,0
Chloromelhane	Lig/kg	<4.5	<4.5	<43	<4,3	<4.2	<5.0	<5.0	<5.0
Cis-1,2-Dichleroethere (cis 1,2-DCE)	ug/kg	<4.5	<4.5	-4\o	<4.3	5.4	<5.0	₹5.0	<8.0
Cis-1,3-Dichloropropens	ug/kg	<4.5	€4.6	<4.3	<4.3	<42	<5.0	<5,0	< 5.0
Cymene	-⊋g/kŋ	<4.5	<4.5	<4.3	23	<4.2	<5.0	<5.0	<5.0
Dibromomethana	ug/kg	<4.5	54.5	<4,3	<4.3	<4.2	<5.0	<5.0	<6.0
Dichloromethans	ug/kg	<4.5	<4.5	<43	<4.3	54.2	<6.0	<b>₹5.0</b>	<5.0
Ethylbenzene	ug/kg	<4.5	×4.5	S40	35	41	<5.0	<5.0	<6.0
Hexachloro-1,3-Butaciene	ug/kg	<4.5	<4.5	<4.3	<4.5	64.2	<5,0	<5.0	<5.0
Isopropylbenzene	iig/kg	<4.5	<4.5	<48	26	160	<6.0	<5.0	<5.0
M-Dichlarapenzene	ug/kg	<4.5	₹4,5	e/15	<4.3	₹4.2	<5.0	<5.0	45.0
Mathylbenzene	ug/kg	<4.5	<4.5	<43	<4.3	<4.2	<5.0 <5.0	<5.0	≺5.0
Methyl-teri-Butyl Ether	ug/kg	<4.5	<4.5	<4.3	×4,3	<4.2	<5.0	<5.0	<5.0
		<4.5	9.5	- 26-		1.00			
Naphthalene C. Vuloso	ug/kg	<4.5	<4.5	S4.3	63 <4,3	4.4	< 5,0	<5.0	<6.0
C-Xylene	i,g/kg	<4.5	<4.5	948		<4.2	<5.0	<5.0	<6.0
Propylbenzene,n-	ug/kg				21	130	<5.0	<5.0	<5.0
Styrene (Morromer)		<4.5	94,5	54.3	<4.3	<u>\$4,2</u> ,	<5.0	<5.0	<5.0
Tert-Butylbenzena	ug/kg	<4.5	46,5	<4.3	<4.3	<4.2	-5.B	<6.0	<5.0
Tetrachloroethene (PCE)	цд/кд	. <4.5	<4.5	<400	25	720	64	6.2	<5.0
Trans-1,2-Dichlarosinese	ug/kg	<9.5	<4.5	<40	<4.3	5.8	<5.0	<5.0	<5.0
Trans-1,3-Dichloropropane	ug/kg	≺4.5	<4.5	<4,3	<4,5	<4.2	<5.0	<5,0	<5.0
Tribromomethane	ug/kg	<4,5	<4.5	24.3	<4,3	<4.2	<5.0	<9.0	<5.0
Trichloroethene (TCE)	рЖен	<4.5	<4.5	<40	<4.3	22	7.9	<5.0	<5.0
Vinyl Chloride (VC)	ug/kg	<4.5	<4.5	<40	<4.3	<4.2	<5.0	<5.0	<5.0
Xylene, P., M-	ug/kg	<4.5	<4.5	<4.3	66	<4.2	<5.0	<5.0	<5.0

- VDCa = Votallb organic compounds analyzed using EPA Method 8080B
   R tigs = Foot below ground curia co
- 9. пук**д Милодин**е раг «Модилу»
- 4. <4.5 = Compound not detected at or above the indicated laboratory reporting I in t
- 9 Bold type indicates compound was detected

TABLE 5
METALS SOIL RESULTS
ASSOCIATED PLATING COMPANY

	Location Marrett et al. Southern California			WDI (St. Paul's	High School)	MW-1	MW-1	MW-1	MW-1	MW-1	MW-2	MW-2	MW-2	MW-2	MW-2
S	Sample ID	Background	d Soli Results	Background	Soil Results	MW1-4506-1-5	MW1-4506-2-10	MW1-4506-3-15	MW1-4506-4-25	MW1-4506-5-35	MW2-4506-1-5	MW2-4506-2-10	MW2-4506-3-15	MW2-4506-4-25	MW2-4506-5-35
Dep	th (ft bgs)	Minimum	Maximum	Minimum	Maximum	5	10	15	25	35	5	10	15	25	35
Analyte	Date					4/5/2006	4/5/2006	4/5/2006	4/5/2006	4/5/2006	4/5/2006	4/5/2006	4/5/2006	4/5/2006	4/5/2006
Antimony	mg/kg	0.12	1.9	NA	NA	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
Arsenic	mg/kg	11	61,1	1.63	15.90	12	3.8	27	2.9	<1.7	33	24	15	6.2	<1.7
Barium	mg/kg	23	670	NA NA	NA	180	170	220	76	32	200	180	180	64	51
Beryllium	mg/kg	0.1	2.2	NA NA	NA	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75
Cadmium	mg/kg	0.05	3,59	0.26	0.36	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51
Total Chromium	mg/kg	5.8	35.2	5.90	51.20	34	_42	39	8.8	7.0	42	40	34	14	9.6
Hexavalent Chromium	mg/kg	NA	NA	NA	NA	<0.24	<0.25	<0.23	<0.23	<0.24	1.1	0.69	<0.24	<0.24	<0.25
Cobalt	mg/kg	1.6	23.9	· NA	NA	14	15	19	4.7	3.8	19	19	17	7.5	4.2
Copper	mg/kg	3.8	82	4.95	41.50	32_	31	43	6.4	4.7	38	50	37	12	5.0
Lead	mg/kg	2.5	246	1.70	10.00	8.1	5.7	8.6	1.7	1.6	7.7	10	8.7_	2.8	1.6
Mercury	mg/kg	0.1	2.7	0.02	0.19	<0.18	<0.16	<0.18	<0.16	<0.18	<0.18	<0.18	<0.18	<0.18	<0.16
Molybdenum	mg/kg	0,15	2.8	NA NA	NA	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1,7	<1.7	<1.7
Nickel	mg/kg	3.5	28.2	NA .	NÀ_	26	27	29	6.8	5.0	23	29	30	10	7.0
Selenium	mg/kg	NA NA	NA	0.20	0.28	3.6	4.3	5.1	2.0	<1.9	2.1	2.7	4.2	3.4	2.0
Silver	mg/kg	0.07	6.2	NA NA	NA NA	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80
Thallium	mg/kg	0.1	1	NA .	NA	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Vanadium	mg/kg	18	90.5	NA	NA	58	53	84	18	15	68	70	62	37	18
Zinc	mg/kg	10.3	396	NA NA	NA	66	90	79	18	16	83	84	74	32	19

- 1. Metals analyzed using EPA Method 6010B, except hexavalent chromium, which was analyzed using EPA Method 7199, and mercury, which was analyzed using EPA Method 7471
- 2. It bgs = Feet below ground surface
- 3. mg/kg = Milligrams per kilogram
- 4. <1.6 = Compound not detected at or above the indicated laboratory reporting limit
- 5. Bold type indicates compound was detected

TABLE 5
METALS SOIL RESULTS
ASSOCIATED PLATING COMPANY

	Location	Morrett et al. So	uthern California	WDI (St. Paul's	High School)	MW-3	MW-3	MW-3	MW-3	MW-4	MW-4	MW-4	MW-4	B-49	B-49	B-49
	Sample ID	Backgroun	d Soil Results	Background	Soil Results	MW3-4606-1-5	MW3-4606-2-22	MW3-4606-3-25	MW3-4606-4-35	MW4-4606-1-10	MW4-4606-2-15	MW4-4606-3-25	MW4-4606-4-35	B49-41706-1-1	B49-41706-2-4	B49-41706-3-7
De	pth (ft bgs)	Minimum	Maximum	Minimum	Maximum	5	22	25	35	10	15	25	35	1	4	7
Analyte	Date					4/6/2006	4/6/2006	4/6/2006	4/6/2006	4/6/2006	4/6/2006	4/6/2006	4/6/2006	4/17/2006	4/17/2006	4/17/2006
Antimony	mg/kg	0.12	1.9	NA NA	NA .	<1.6	<1.6	<1.4	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
Arsenic	mg/kg	1	61,1	1.63	15.90	11	19	4.7	3.3	7.6	14	6.1	3.3	35	14	16
Barium	mg/kg	23	670	NA	NA	150	190	70	44	160	180	170	69	200	160	180
Beryllium	mg/kg	0.1	2.2	NA	NA	<0.75	<0.75	<0.68	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75
Cadmium	mg/kg	0.05	3.59	0.26	0.36	<0.51	<0.51	<0.46	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51
Total Chromium	mg/kg	5.8	35.2	5.90	51,20	33	38	13	7.3	31	34	30	14	38	32	33
Hexavalent Chromium	mg/kg	NA NA	NA NA	NA	NA	<0.23	<0.24	<0.24	<0.23	<0.25	0.92	<0,24	<0.25	0.49	0.63	0.28
Cobalt	mg/kg	1.6	23.9	NA	NA	15	17	5.9	3.2	12	16	15	5.6	17	14	14
Copper	mg/kg	3.8	82	4.95	41.50	30	38	9.4	5.2	26	37	30	8.3	37	39	37
Lead	mg/kg	2.5	246	1.70	10.00	7.4	7.4	3.2	1.4	5.7	8.2	5.2	2.3	8.9	22	6.3
Mercury	mg/kg	0,1	2.7	0.02	0.19	<0.15	<0.18	<0.15	<0.16	<0.16	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18
Molybdenum	mg/kg	0.15	2,8	NA _	NA	<1.7	<1.7	<1.5	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
Nickel	mg/kg	3.5	28.2	NA	NA .	24	29	8.9	5.2	23	30	24	8.2	25	_19	24
Selenium	mg/kg	NA NA	NA NA	0.20	0,28	4.0	4.9	2.2	<1.9	3.2	5.0	4.3	2.3	<1.9	<1.9	<1.9
Silver	mg/kg	0.07	6.2	NA	NA	<0.80	<0.80	<0.72	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80
Thallium	mg/kg	0.1	1	NA NA	NA	<1.5	<1.5	<1.4	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Vanadium	mg/kg	18	90.5	NA	NA .	62	74	28	14	50	59	61	. 24	62	54	54
Zinc	mg/kg	10.3	396	NA	NA	55	81	27	15	82	77	67	24	76	72	63

- 1. Metals analyzed using EPA Method 6010B, except hexavalent chromium, which was analyzed using EPA Method 7199, and n
- 2. ft bgs = Feet below ground surface
- 3. mg/kg = Milligrams per kilogram
- 4. <1.6 = Compound not detected at or above the indicated laboratory reporting limit
- 5. Bold type indicates compound was detected

TABLE 6
TPH CARBON RANGE GROUNDWATER RESULTS
ASSOCIATED PLATING COMPANY

	Location	MW-1	MW-2	MW-3	MW-4
Analyte	Date	4/12/2006	4/12/2006	4/12/2006	4/12/2006
<c8< td=""><td>mg/L</td><td>&lt;0.10</td><td>&lt;1.0</td><td>&lt;1.0</td><td>&lt;1.0</td></c8<>	mg/L	<0.10	<1.0	<1.0	<1.0
C8-C9	mg/L	<0.10	<1.0	<1.0	<1.0
C9-C10	mg/L	<0.10	1.1	<1.0	<1.0
C10-C11	mg/L	0.33	2.0	<1.0	<1.0
C11-C12	mg/L	0.66	2.8	<1.0	<1.0
C12-C14	mg/L	5.1	5.9	<1.0	1.8
C14-C16	mg/L	6.7	5.8	1.5	5.4
C16-C18	mg/L	6.8	5.0	<1.0	4.4
C18-C20	mg/L	4.1	3.6	1.1	4.0
C20-C24	mg/L	12	7.0	<1.0	5.2
C24-C28	mg/L	16	7.1	2.6	9.6
C28-C32	mg/L	12	10	35	27
>C32	mg/L	0.65	3.5	4.3	2.6
Total C7-C36	mg/L	65	54	46	60

- 1. TPH = Total petroleum hydrocarbons (carbon range) analyzed using EPA Method 8015B
- 2. mg/L = Milligrams per liter
- 3. <0.10 = Compound not detected at or above the indicated laboratory reporting limit
- 4. Bold type indicates compound was detected

## TABLE 7 VOC GROUNDWATER RESULTS ASSOCIATED PLATING COMPANY

	Location	MW-1	MW-2	MW-3	MW-4
Analyte	Date	4/12/2006	4/12/2006	4/12/2006	4/12/2006
1,1,1,2-Tetrachioroethane	ug/L	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	ug/L	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	ug/L	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	ug/L	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	ug/L	<1.0	1.1	<1.0	<1.0
1,1-Dichloroethene	ug/L	<1.0	<1.0	<1.0	<1.0
1,1-Dichloropropylene	ug/L	<1.0	<1.0	<1.0	<1.0
1,2,3-Trichlorobenzene	ug/L	<1.0	<1.0	<1.0	<1.0
1,2,3-Trichloropropane	ug/L	<5.0	<5.0	<5.0	<5.0
1,2,4-Trichlorobenzene	ug/L	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	ug/L	<1.0	<1.0	23	<1.0
1,2-Dibromo-3-Chloropropane (DBCP)	ug/L	<5.0	<5.0	<5.0	<5.0
1,2-Dibromoethane	ug/L	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	ug/L	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	ug/L	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	ug/L	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	ug/L	<1.0	<1.0	6.3	<1.0
1,3-Dichloropropane	ug/L	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	ug/L	<1.0	<1.0	<1.0	<1.0
2,2-Dichloropropane	ug/L	<1.0	<1.0	<1.0	<1.0
2-Chlorotoluene	ug/L	<1.0	<1.0	<1.0	<1.0
2-Phenylbutane	ug/L	<1.0	16	16	16
4-Chlorotoluene	ug/L	<1.0	<1.0	<1.0	<1.0
Benzene	ug/L	1.3	2.3	2.0	3.6
Bromobenzene	ug/L	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	ug/L	<1.0	<1.0	<1.0	<1.0
Bromomethane	ug/L	<5.0	<5.0	<5.0	<5.0
Butylbenzene,n-	ug/L	<1.0	<1.0	<1.0	<1.0
Carbon Tetrachloride	ug/L	<1.0	<1.0	<1.0	<1.0
CFC-11	ug/L	<5.0	<5.0	<5.0	<5.0
CFC-12	ug/L	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	ug/L	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<1.0
Chlorobromomethane Chlorodibromomethane	ug/L	<1.0	<1.0	<1.0	<1.0 <1.0
Chloroethane	ug/L ug/L	<5.0	<5.0	<5.0	<5.0
Chloroform	ug/L ug/L	<1.0	<1.0	<1.0	<1.0
Chloromethane	ug/L	<5.0	<5.0	<5.0	<5.0
Cis-1,2-Dichloroethene (cis 1,2-DCE)	ug/L	5.5	<1.0	<1.0	<1.0
Cis-1,3-Dichloropropene	ug/L	<1.0	<1.0	<1.0	<1.0
Cymene	ug/L	3.2	4.1	1.4	4.1
Dibromomethane	ug/L	<1.0	<1.0	<1.0	<1.0
Dichloromethane	ug/L	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	ug/L	<1.0	<1.0	21	1.5
Hexachloro-1,3-Butadiene	ug/L	<1.0	<1.0	<1.0	<1.0
Isopropylbenzene	ug/L	1.9	75	83	86
M-Dichlorobenzene	ug/L	<1.0	<1.0	<1.0	<1.0
Methylbenzene	ug/L	<1.0	<1.0	<1.0	<1.0
Methyl-tert-Butyl Ether	ug/L	8.9 51/2	3.5	1.9	3.0
Naphthalene	ug/L	1.6	16	46	4.5
O-Xylene	ug/L	<1.0	<1.0	2.6	<1.0
Propylbenzene,n-	ug/L	<1.0	9.4	22	10
Styrene (Monomer)	ug/L	<1.0	<1.0	<1.0	<1.0
Tert-Butylbenzene	ug/L	1,6	1.9	<1.0	<1.0
Tetrachloroethene (PCE)	ug/L	<1.0	<1.0	<1:0	2.7
Trans-1,2-Dichloroethene	ug/L	5.2	<1.0	<1.0	<1.0
Trans-1,3-Dichloropropene	ug/L	<1.0	<1.0	<1.0	<1.0
Tribromomethane	ug/L	<1.0	<1.0	<1.0	<1.0
Trichloroethene (TCE)	ug/L	1.3	<1.0	<1.0	<1.0
Vinyl Chloride (VC)	ug/L	20	50	53	57
Xylene, P-, M-	ug/L	<1.0	<1.0	28	<1.0

ESL-579/V ESL-1719/K

FRG-2pg/L

- 1. VOCs = Volatile organic compounds analyzed using EPA Method 8260B
- 2. ug/L = Micrograms per liter
- 3: <1.0 = Compound not detected at or above the indicated laboratory reporting limit
- 4. Bold type indicates compound was detected

## TABLE 8 METALS GROUNDWATER RESULTS ASSOCIATED PLATING COMPANY

	Location	MW-1	MW-2	MW-3	MW-4
Analyte	Date	4/12/2006	4/12/2006	4/12/2006	4/12/2006
Antimony	mg/L	<0.023	<0.023	<0.023	0.024
Arsenic	mg/L	<0.025	<0.025	0.14	0.11
Barium	mg/L	0.65	1.1	3.2	1,6
Beryllium	mg/L	<0.0090	<0.0090	<0.0090	<0.0090
admium	mg/L	<0.0040	<0.0040	<0.0040	<0.0040
Total Chromium	mg/L	0.059	0.12	0.13	0.19
Hexavalent Chromium	mg/L	0.0047	0.0024	<0.0020	<0.0020
Cobalt	mg/L	0.032	0.063	0.11	0.095
Copper	mg/L	0.092	0.18	0.31	0.34
ead	mg/L	0.040	0.048	0.081	0.095
Mercury	mg/L	<0.00073	<0.00073	0.00079	<0.00073
Molybdenum	mg/L	<0.028	<0.028	<0.028	<0.028
Nickel	mg/L	0.044	0.091	0.13	0.15
Selenium	mg/L	<0.026	<0.026	<0.026	<0.026
Silver	mg/L	<0.0030	<0.0030	<0.0030	<0.0030
Thallium	mg/L	<0.011	<0.011	<0.011	<0.011
/anadium	mg/L	0.16	0.25	0.40	0.36
Zinc	mg/L	0.15	0.29	0.47	0.45

- Metals analyzed using EPA Method 6010B, except hexavalent chromium, which was analyzed using EPA Method 7199, and mercury, which was analyzed using EPA Method 7470
- 2. ft bgs = Feet below ground surface
- 3. mg/L = Milligrams per liter
- 4. <0.023 = Compound not detected at or above the indicated laboratory reporting limit
- 5. Bold type indicates compound was detected

TABLE 9
TPH & VOC SOIL GAS RESULTS
ASSOCIATED PLATING COMPANY

	Location	B-47	B-48
Analyte		4/12/2006	4/12/2006
TPH	ug/L	26,000	12,000
VOCs			
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/L	< 5.9	<5.6
1,1,1-Trichloroethane	ug/L	<2.1	<2.0
1,1,2,2-Tetrachioroethane	ug/L	<5.4	<5.1
1.1,2-Trichloroethane	ug/L	<2.1	<2.0
1,1-Dichloroethane	ug/L	<1.6	<1.5
1,1-Dichloroethene	ug/L	<1.5	<1.5
1,2,4-Trichlorobenzene	ug/L	<5.8	<5.5
1,2,4-Trimethylbenzene	ug/L	<3.8	<3.6
1,2-Dibromoethane	ug/L	<3.0	<2.8
1,2-Dichlorobenzene	ug/L	<2.3	<2.2
1,2-Dichloroethane	ug/L	<1.6	<1.5
1,2-Dichloropropane	ug/L	<1.8	<1.7
1,3-Dichlorobenzene	ug/L	<2.3	<2.2
1,4-Dichlorobenzene	ug/L	<2.3	<2.2
1,3,5-Trimethylbenzene	ug/L	<1.9	<1.8
Benzene	uġ/L	<1.2	<1.2
Benzyl Chloride	ug/L	<4.0	<3.8
Bromomethane	ug/L	<1.5	<1.4
Carbon Tetrachloride	ug/L	<2.4	<2.3
Chlorobenzene	ug/L	<1.8	<1.7
Chloroethane	ug/L	<1.0	<0.97
Chloroform	ug/L	<1.9	<1.8
Chloromethane	ug/L	<0.80	< 0.76
Cis-1,2-Dichloroethene (cis 1,2-DCE)	ug/L	4.0	7.3
Cis-1,3-Dichloropropene	ug/L	<1.8	<1.7
Dichlorodifluoromethane	ug/L	<1.8	<1.8
Dichlorotetrafluoroethane	ug/L	<11	<10
Ethylbenzene	ug/L	<1.7	<1.6
Hexachloro-1,3-Butadiene	ug/L	<8.3	<7.9
Methylene Chloride	ug/L	11	8.1
O-Xylene	ug/L	<1.7	<1.6
Styrene (Monomer)	ug/L	<3.3	<3.1
Tetrachloroethene (PCE)	ug/L	<2.6	9.1
Toluene	ug/L	<1.5	<1.4
Trans-1,3-Dichloropropene	ug/L	<3.5	<3.3
Trichloroethene (TCE)	ug/L	<2.1	15
Triclorofluoromethane	ug/L	<4.4	<4.1
Vinyl Chloride (VC)	ug/L	35	32
Xylene, P-, M-	ug/L	<3.4	<3.2

- 1. TPH = Total petroleum hydrocarbons analyzed using EPA Method TO-3
- 2. VOCs= Volatile Organic Compounds analyzed using EPA Method TO-14A
- 3. ug/L = Micrograms per liter
- 4. <0.10 = Compound not detected at or above the indicated laboratory reporting limit
- 5. Bold type indicates compound was detected

TABLE 10
FIELD QUALITY ASSURANCE/QUALITY CONTROL SAMPLE RESULTS
ASSOCIATED PLATING COMPANY

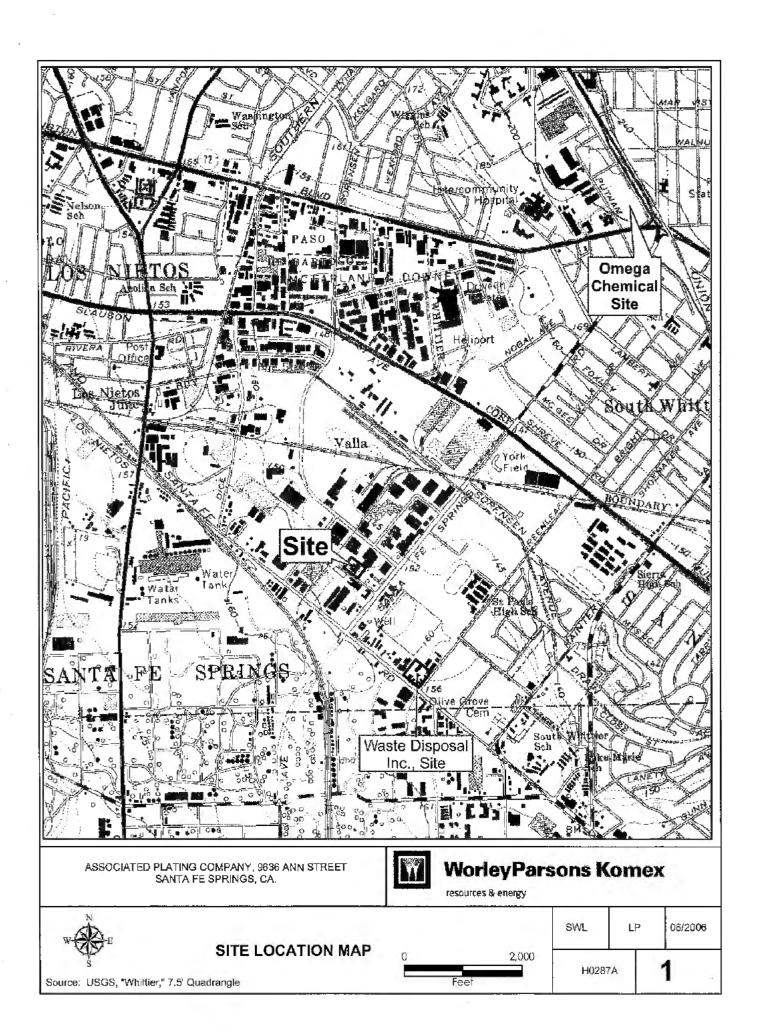
S	ample Type	Equipment Blank	Equipment Blank	Equipment Blank	Equipment Blank	Field Blank	Field Blank	Field Blank	Field Blank	Trip Blank	Trip Blank	Trip Blank	l'rip Blank
	Sample ID	EB-4506	EB-4606	EB-41206	EB-41706	FB-4506	FB-4606	FB-41206	FB-41706	TB-4506	TB-4606	TB-41206	TB-4170
and the second s	ample Date	4/5/2006	4/6/2006	4/12/2006	4/17/2006	4/5/2006	4/6/2006	4/12/2006	4/17/2006	4/5/2006	4/6/2006	4/12/2006	4/17/200
TPH - Carbon Range	Transaction of the same		T vo nan	-0 04A	<0.010		30.040	-0.04D	-0.040				
<c8 C8-C9</c8 	mg/L mg/L	_	<0.010 <0.010	<0.010	<0.010	-	<0.010	<0.010	<0.010 <0.010	-			_
C9-C10	mg/L		<0.010	<0.010	<0.010	_	<0.010	<0.010	<0.010			-	_
C10-C11	mg/L	7-3-6	< 0.010	<0.010	<0.010		<0.010	<0.010	<0.010		_	_	_
C11-C12	mg/L		<0.010	<0.010	<0.010	-	<0.010	<0.010	<0.010		_	I	_
C12-C14	mg/L	15	<0.010	<0.010	<0.010		<0.010	<0.010	<0.010	1	44.0	7 -	_
C14-C16	mg/L	I Y	<0.010	<0.010	<0.010	-	<0.010	<0.010	<0.010	-	-	-	_
C16-C18	mg/L		<0.010	<0.010	<0.010	-	<0.010	<0.010	<0.010		-		_
C18-C20	mg/L		<0.010	<0.010	<0.010		<0.010	<0.010	<0.010				_
C20-C24 C24-C28	mg/L		<0.010	<0.010	<0.010		<0.010	<0.010	<0.010		*==	-	
C28-C32	mg/L mg/L		<0.010	<0.010	<0.010		<0.010	<0.010	<0.010		=	-	-
>C32	mg/L		<0.010	<0.010	<0.010	_	<0.010	<0.010	<0.010			_	
Total C7-C36	mg/L	-	< 0.050	<0.050	<0.050	-	<0.050	<0.050	<0.050				
VOCs													
1,1,1,2-Tetrachloroethane	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
I,1,1-Trichlomethane	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	ug/L	<1.0	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<1.0	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<1.0	<1.0 <1.0	<1.0 <1.0	<1.0
1,1-Dichloroethane 1,1-Dichloroethene	ug/L ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
f,1-Dichloropropylene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-Trichlorobenzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
,2,3-Trichloropropane	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
,2,4-Trichlorobenzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trimethylbenzene	ug/L	≺1.0	<1.0	≺1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
,2-Dibromo-3-Chloropropane (DBCP)	ug/L	<5.0	<5.0	<b>≺</b> 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<b>≺5.0</b>	<5.0
,2-Dibromoethane	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1.2-Dichlorobenzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane 1,2-Dichloropropane	ug/L	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<1.0	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<1.0	<1.0	<1.0 <1.0	<1.0 <1.0
1,3,5-Trimethylbenzene	ug/L ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichloropropane	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
,4-Dichlorobenzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,2-Dichloropropane	ug/L	<1,0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1,0	<1.0
2-Chlorotoluene	ug/L	<1.0	<1.0	<1.0	0,[>	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenylbutane	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
-Chlorotoluene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromobenzene	ug/L	<1.0	<1.0 <1.0	<1.0	<1.0 <1.0	<1.0	<1.0 <1.0	<1.0	<1.0	<1.0	<1.0	<1.0 <1.0	<1.0
Bromodichloromethane	ug/L ug/L	<1.0 <5.0	<5.0	<1.0 <5.0	<5.0	<5.0	<1.0 <5.0	<5.0	<1.0 <5.0	<1.0 <5.0	<5.0	<5.0	<1.0 <5.0
Bromomethane Butylbenzene,n-	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1,0	<1.0
Carbon Tetrachloride	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	≤1.0
FC-11	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
DFC-12	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5,0	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobromomethane	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorodibromomethane	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane Chloroform	ug/L.	<5.0 <1.0	<5.0 <1.0	<5.0 <1.0	<5.0 <1.0	<5.0 <1.0	<5.0 <1.0	<5.0 <1.0	<5.0 . <1.0	<5.0 <1.0	<5.0 <1.0	<5.0 <1.0	<5.0 <1.0
Chloromethane	ug/L ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Cis-1,2-Dichloroethene (cis 1,2-DCE)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cis-1,3-Dichloropropene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Symene	ug/L	<1.0	<1.0	<1,0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromomethane	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
ichloremethane	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
thylbenzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
lexachloro-1,3-Butadiene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
sopropylbenzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 <1.0	<1.0 <1.0	<1.0	<1.0
M-Dichlorobenzene Methylbenzene	ug/L	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<1.0	<1.0 <1.0	<1.0 <1.0	<1.0	<1.0	<1.0 <1.0	<1.0
lethyl-tert-Butyl Ether	ug/L ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
laphthalene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
-Xylene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
ropylbenzene,n-	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
tyrene (Monomer)	ug/L	<1.0	<1,0	<1.0	<1,0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
ert-Butylbenzene	ug/L.	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
etrachloroethene (PCE)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
rans-1,2-Dichloroethene	ug/L	<1.0	<1.0	<1.0	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<1.0	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0
rans-1,3-Dichloropropene	ag/L	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<1.0	<1.0	<1.0	<1.0 <1.0	<1.0	<1.0	<1.0	<1.0	<1.0
ribromomethane richloroethene (TCE)	ug/L ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
inyl Chloride (VC)	ug/L ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
ylene, P-, M-	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
etals				- 1	in an		i formación de la companya de la com						- minn?
ntimony	mg/L	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	<0.023	=			
rsenic	mg/L	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025				_
arium	mg/L	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	~			
eryllium	mg/L	<0.0090	<0.0090	<0.0090	<0.0090	<0.0090	<0.0090	<0.0090	<0.0090	_	5-5	-	_
admium .	mg/L	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040				
otal Chromium	mg/L	0.0087	<0.0060	<0.0060 <0.0020	<0.0060 <0.0020	0.0076	<0.0060	<0.0060 <0.0020	<0.0060	-	-20	==	==
axavalent Chromium	mg/L	<0.0060	<0.0020 <0.0060	<0.0020	<0.0020	<0.0060	<0.0020	<0.0020	<0.0020	_	===	= 1	-
	mg/L mg/L	<0.0060	<0.0060	<0.0060	<0.0060	0.0060	<0.0060	<0.0060	<0.0060		_		
opper ead	mg/L mg/L	<0.012	<0.012	<0.012	<0.012	0.033	<0.012	<0.012	<0.012		5	_	3-2
ercury	mg/L	<0.00073	<0.00073	<0.00073	<0.00073	< 0.00073	< 0.00073	< 0.00073	< 0.00073	lere .			_
olybdenum	mg/L	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	< 0.028	200			
ickel	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	-		_	
elenium	mg/L	<0.026	<0.026	<0.026	< 0.026	<0.026	< 0.026	<0.026	<0.026	3 0		-	
ilver	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	-		-	
halilum	mg/L	<0.011	<0.011	<0.011	< 0.011	<0.011	<0.011	<0.011	<0.011			-	_
anadium	mg/L	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	-		_ =	Teles.
ing	mg/L	< 0.024	< 0.024	<0.024	< 0.024	0.14	< 0.024	<0.024	< 0.024	-	-		

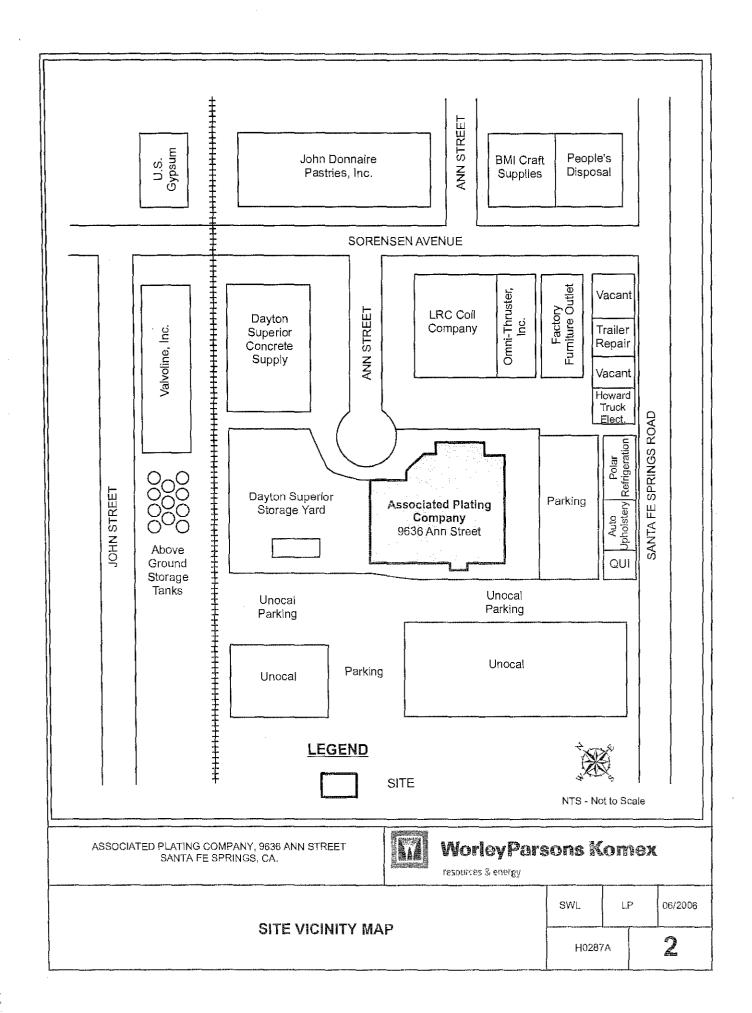
#### Notes: 1.

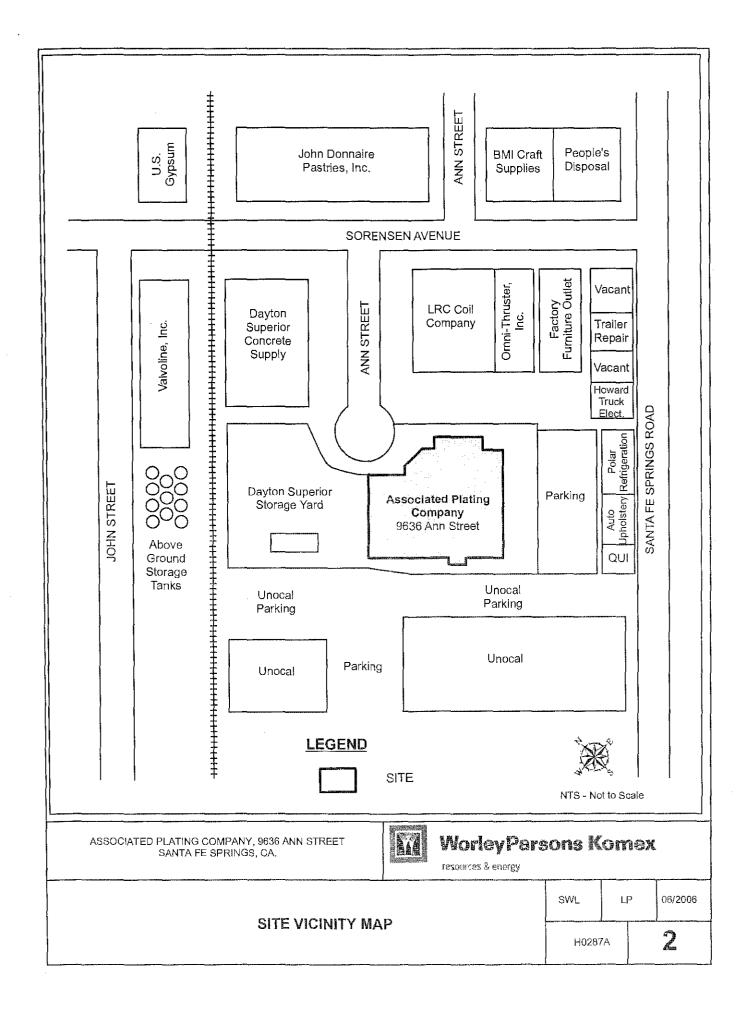
- TPH = Total petroleum hydrocarbons (cerbon range) analyzed using EPA Melhod 8015B
  VCCs = Votatile organic compounds analyzed using EPA Melhod 8250B
- Metais analyzed using EPA Method 6010, except mercury, which was analyzed using EPA Method 7470
- 4. mg/L = Milligrams per liter
- ug/L = Micrograms per liter
- 6. <0.010 = Analyte was not detected at or above the indicated laboratory reporting limit
- 7. —= Not analyzed
- 8. Bold indicates analyte was detected at or above the laboratory reporting limit

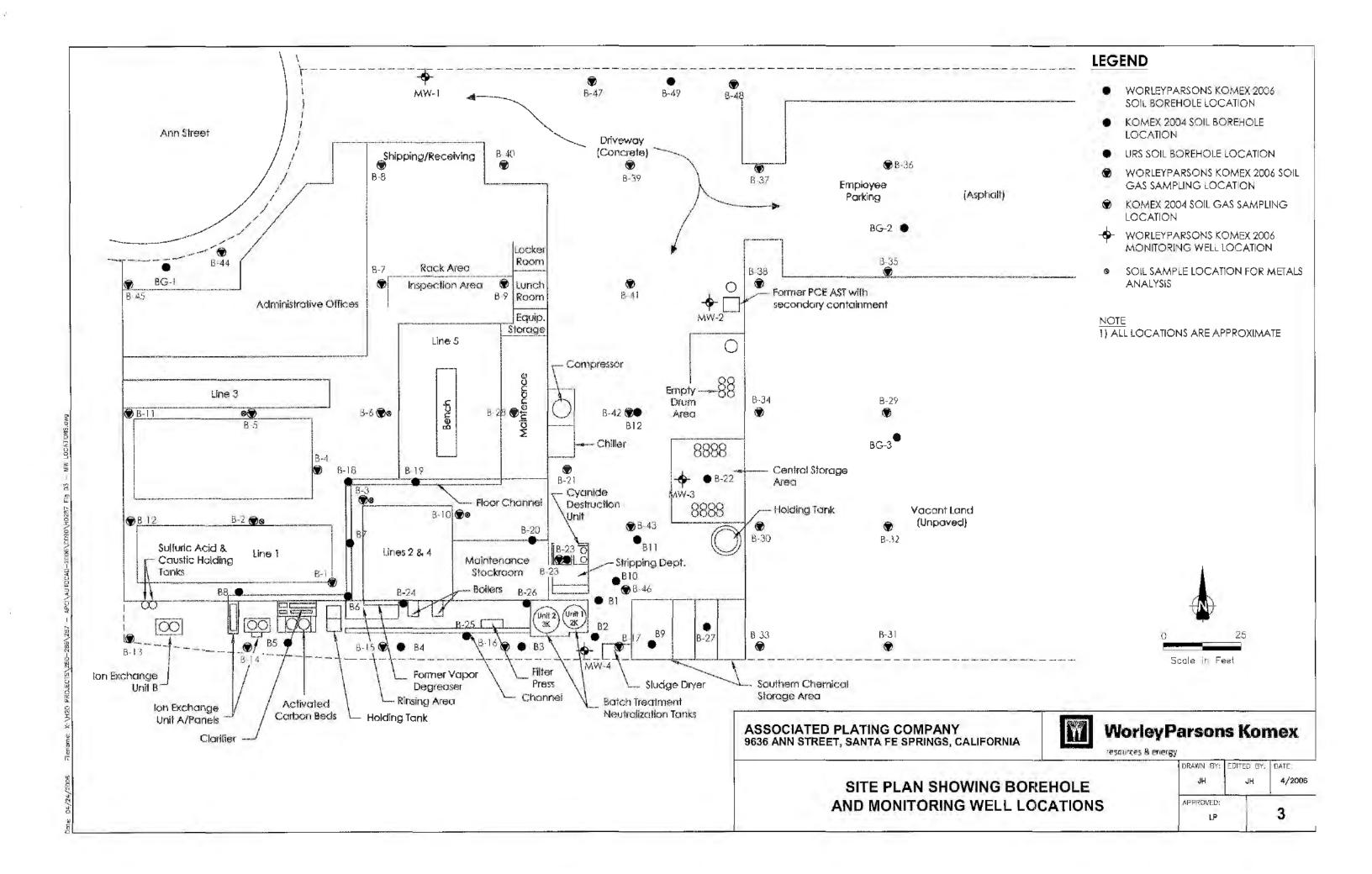
### **Figures**

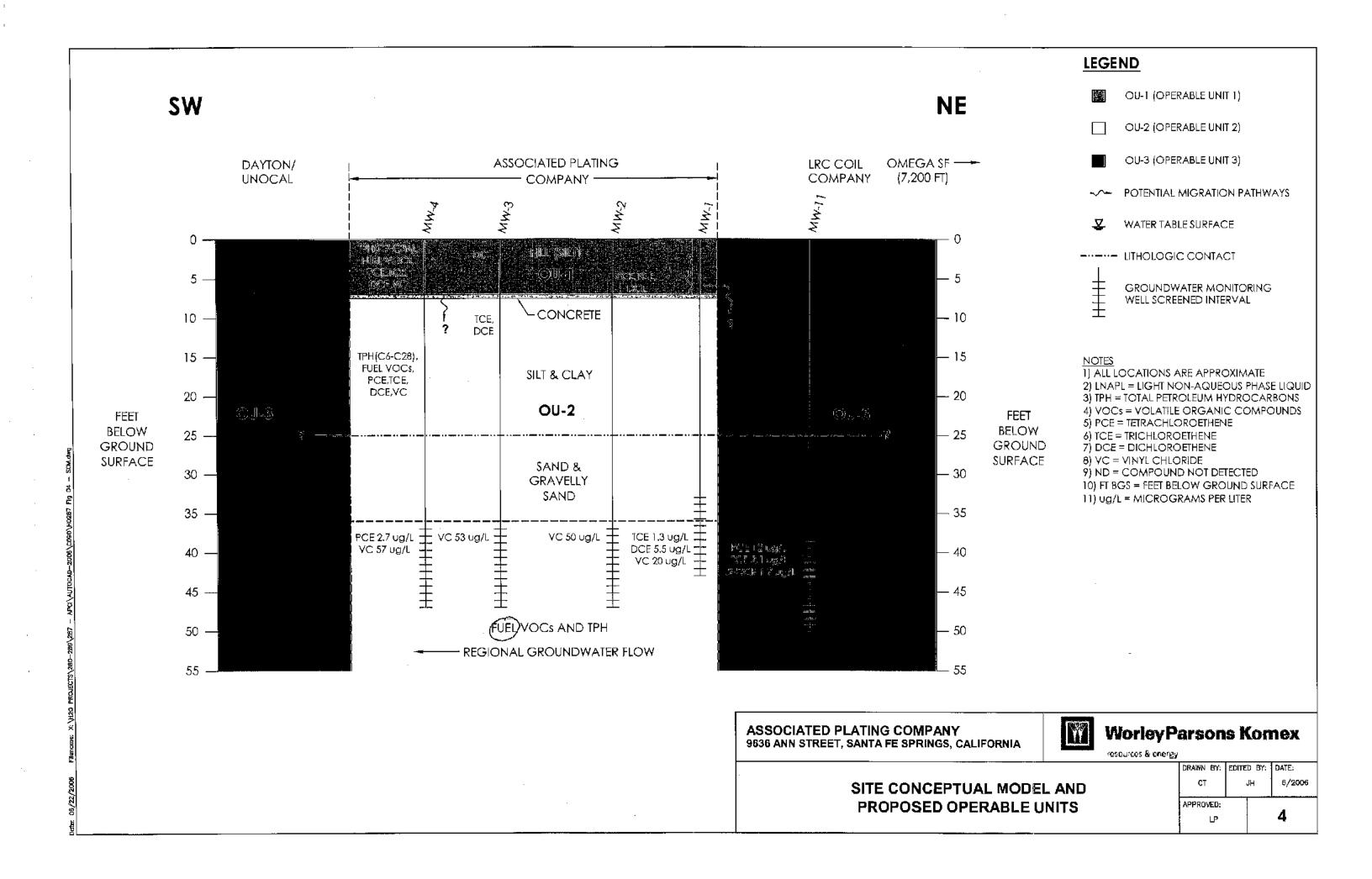
H0287C: Rev A: 15 June 2006

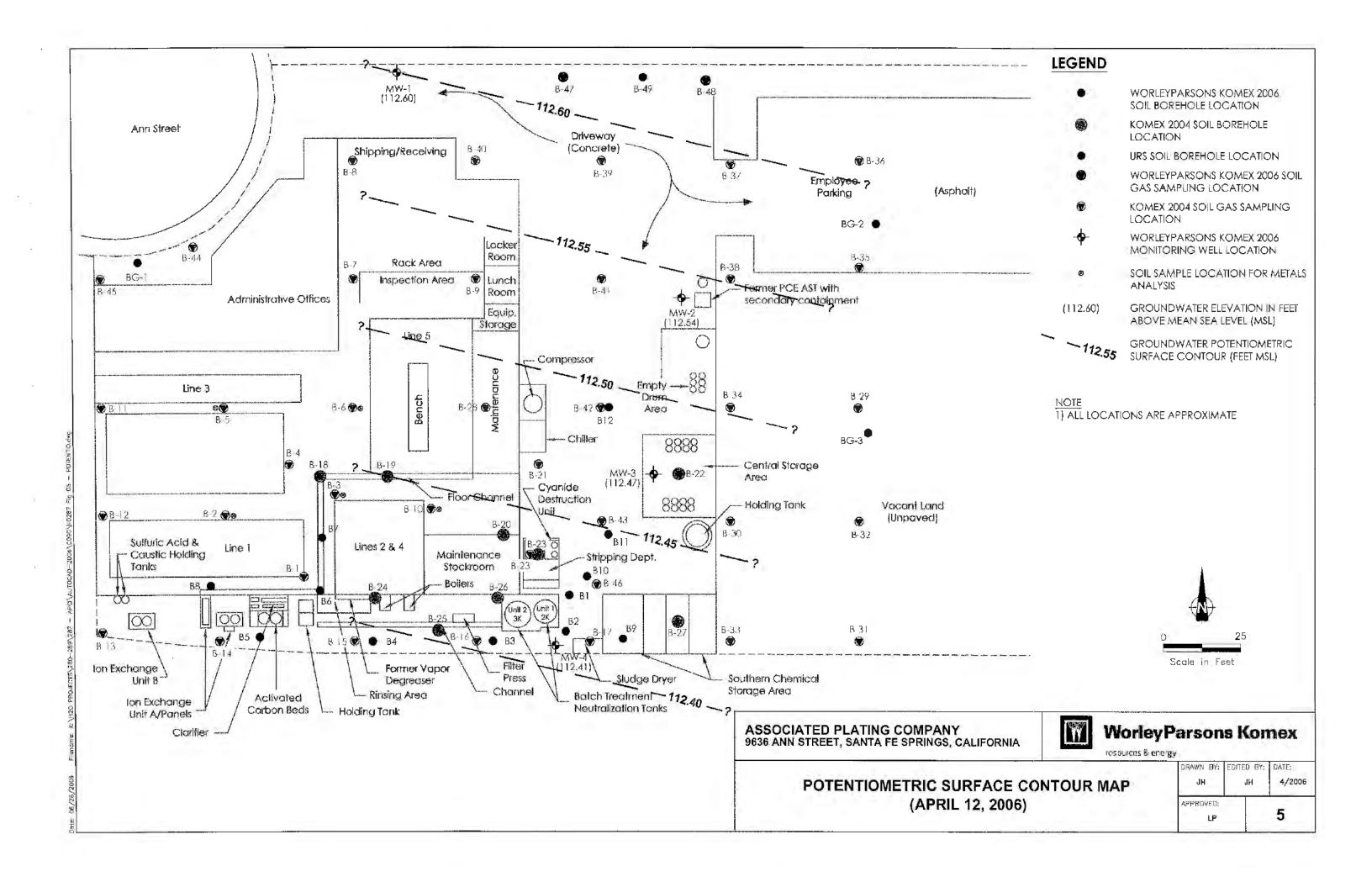


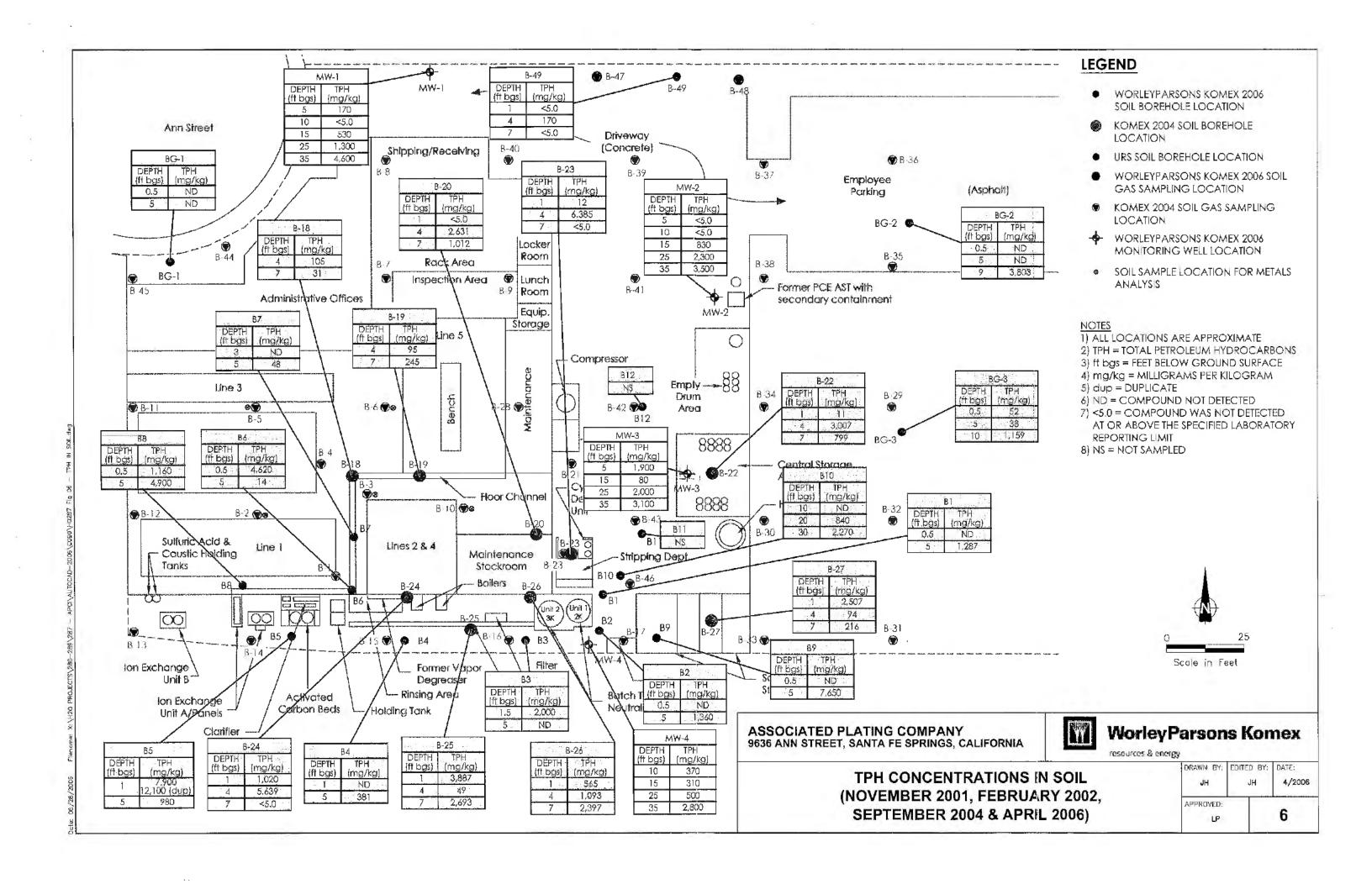


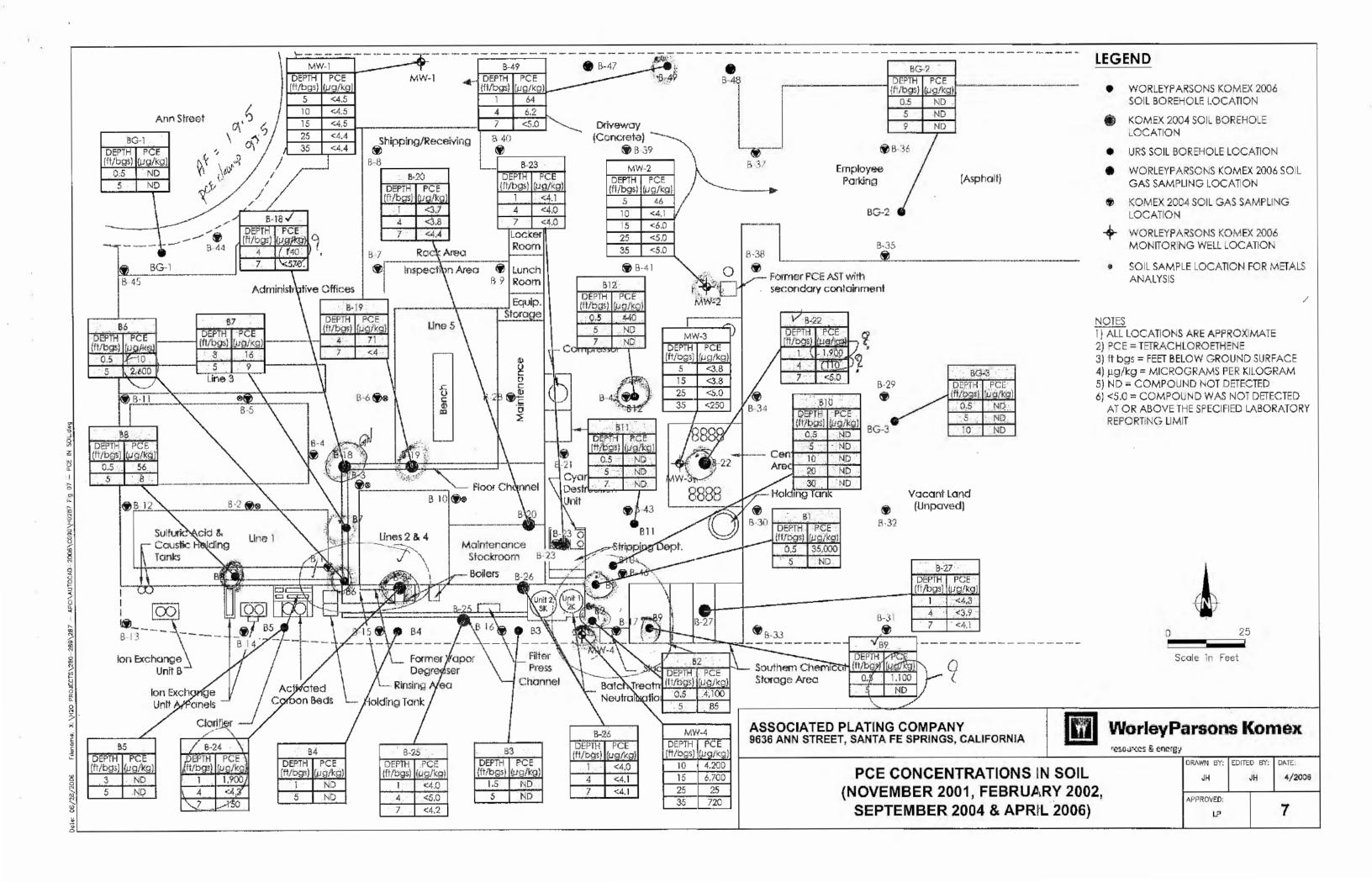


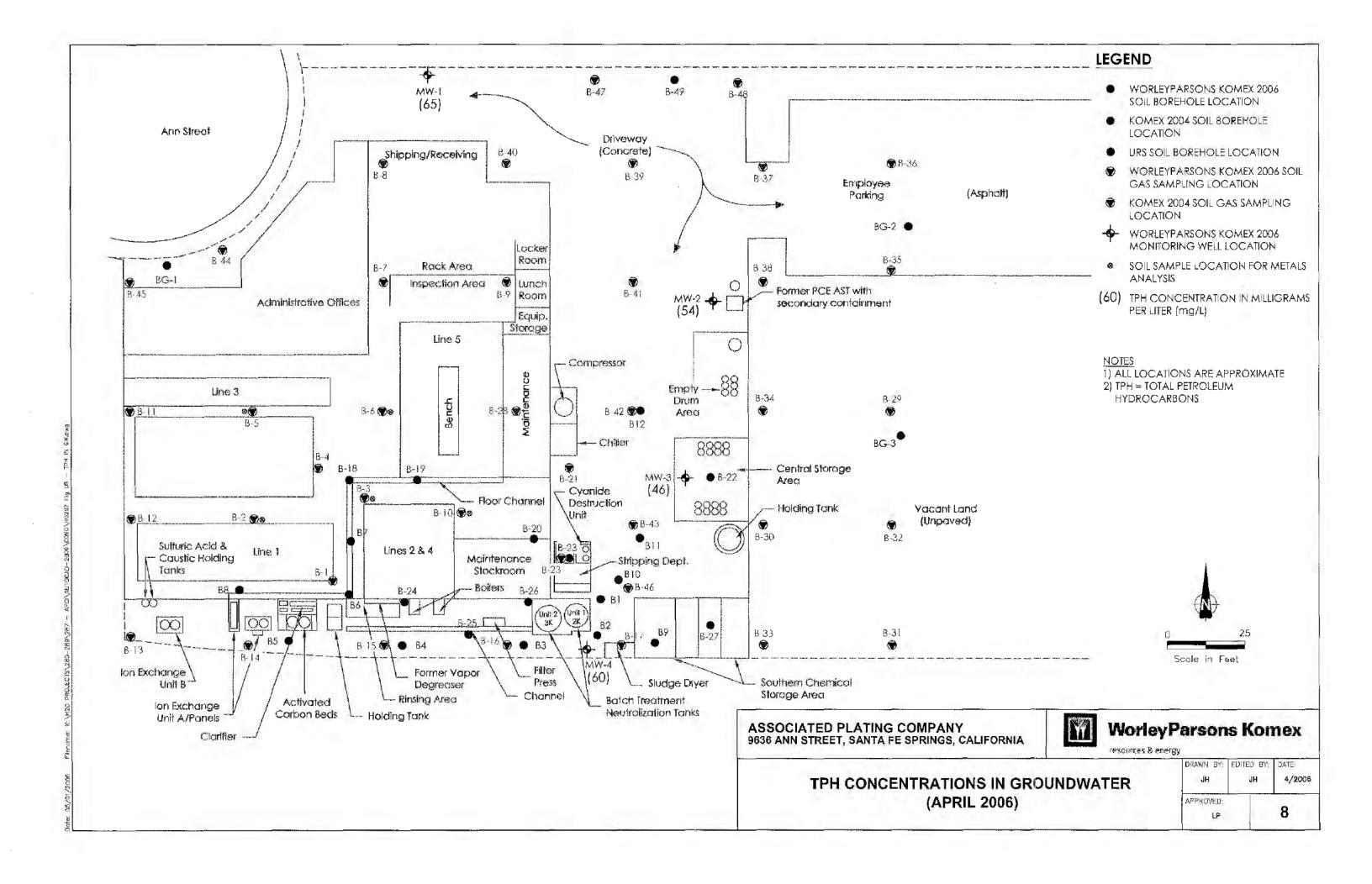


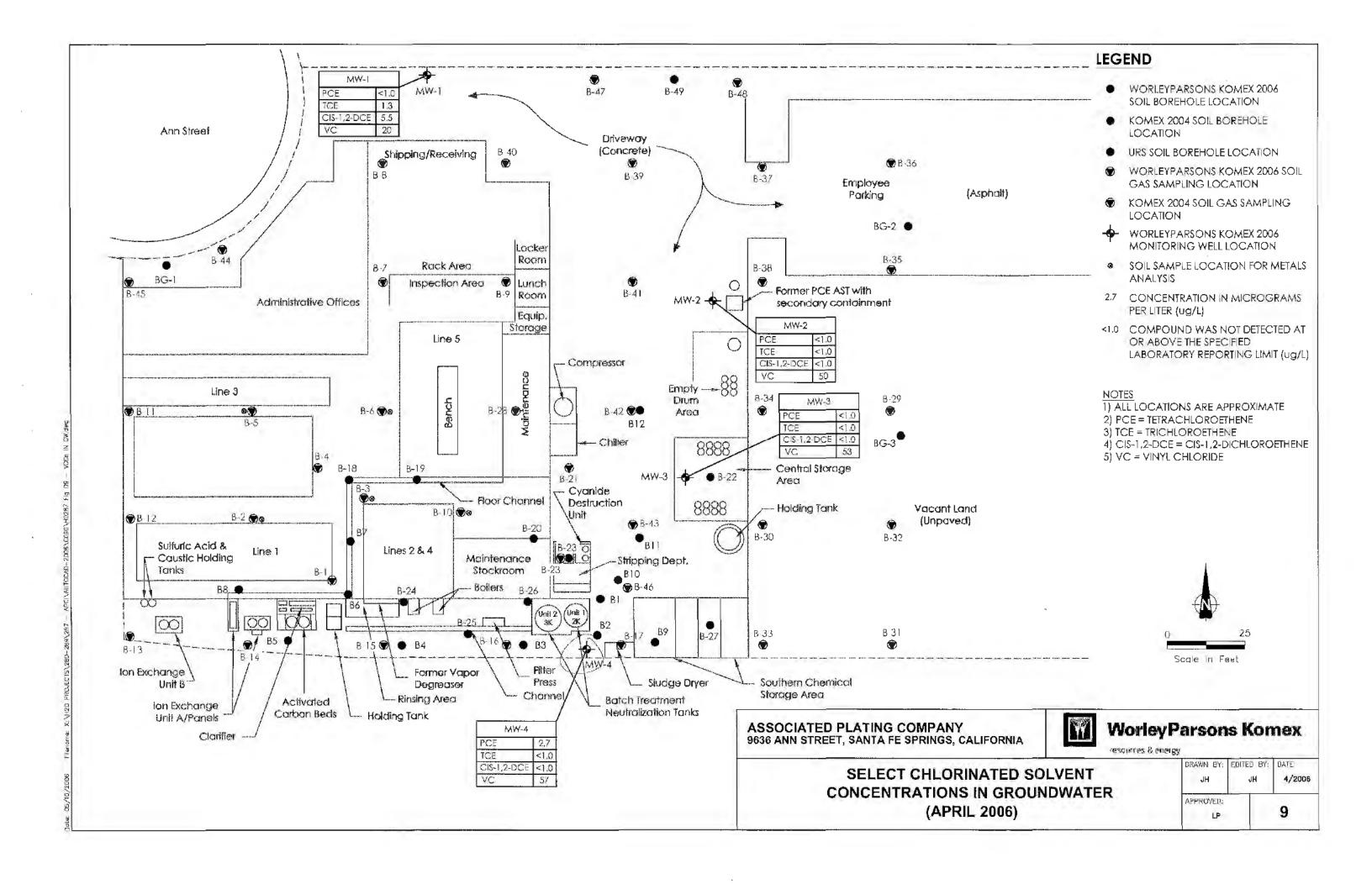


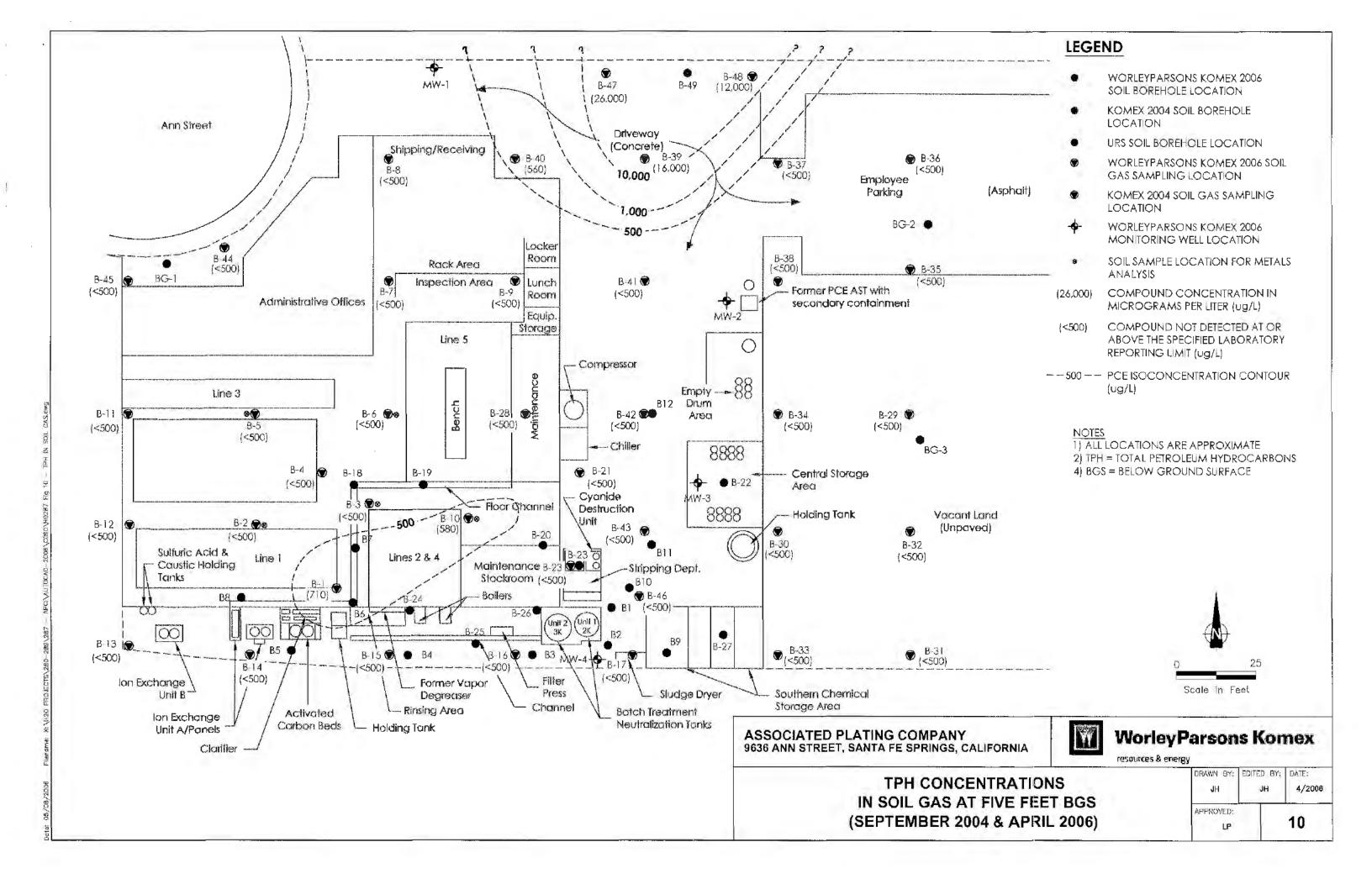


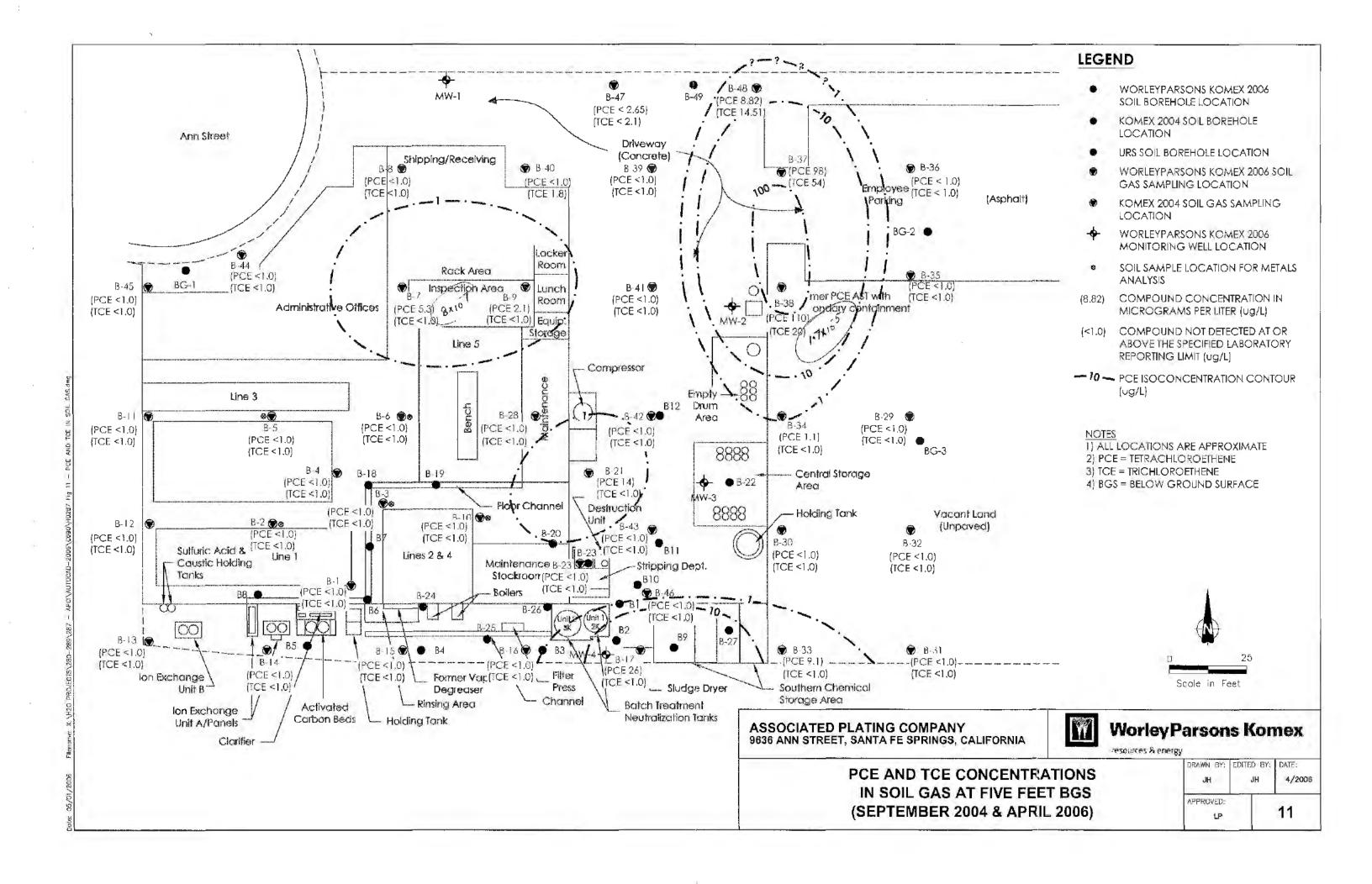












**Appendices** 

Appendix A Human Health Risk Assessment

#### MEARNS CONSULTING LLC

**ENVIRONMENTAL CONSULTANTS** 

RISK ASSESSORS

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Human Health Risk Assessment Associated Plating Company 9636 Ann Street Santa Fe Springs, California

June 23, 2006

Prepared for:

WorleyParsons Komex 5455 Garden Grove Boulevard, Second Floor Westminster, California 92683

Prepared by:

Mearns Consulting LLC 738 Ashland Avenue Santa Monica, California 90405

#### MEARNS CONSULTING LLC

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June 23, 2006

#### via courier

Ms. Lee Paprocki, R.G. Project Hydrogeologist, Project Manager WorleyParsons Komex 5455 Garden Grove Boulevard, Second Floor Westminster, California 92683-8201

RE: HUMAN HEALTH RISK ASSESSMENT

Associated Plating Company 9636 Ann Street, Santa Fe Springs, California

Dear Ms. Paprocki;

I am pleased to present this Human Health Risk Assessment (HRA) for Associated Plating Company located at 9636 Ann Street, Los Angeles County, Santa Fe Springs, California (the site) pursuant to your authorization.

This HRA followed the guidance in the Department of Toxic Substances Control (DTSC) Preliminary Endangerment Assessment (PEA) guidance manual (DTSC, 1999), the U.S. Environmental Protection Agency Risk Assessment Guidance for Superfund volume 1, Human Health Evaluation Manual (RAGs) (USEPA, 2004), the Massachusetts Department of Environmental Protection (MADEP) Characterizing Risks posed by Petroleum Contaminated Sites manual (MADEP, June, 2001), the DTSC Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (DTSC, February 7, 2005), the DTSC Human and Ecological Risk Division (HERD)-approved Johnson & Ettinger soil gas screen, version 2.0 model (January 21, 2005), the DTSC-HERD-approved Johnson & Ettinger groundwater screen, version 3.0 model (January 21, 2005) and the DTSC LeadSpread 7 Model.

Should you have any questions or desire additional information, please contact me at your earliest convenience at 310.396.9606.

No. 20032 Bapires: 10.31-06

Very truly yours,

Susan L. Mearns, Ph.D., REA II 20032

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#### HUMAN HEALTH RISK ASSESSMENT Associated Plating Company 9636 Ann Street, Santa Fe Springs, California

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Appendix B - DTSC-HERD modified Johnson & Ettinger Soil Gas Screen Results version 2.0 (April, 2003), last modified January 21, 2005

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#### EXECUTIVE SUMMARY

The objective of this Human Health Risk Assessment (HRA) was to evaluate potential health risks to human receptors posed by concentrations of 54 constituents detected at least one time in the top 10-feet of the soil matrix, in soil gas or groundwater underlying the property located at 9636 Ann Street Santa Fe Springs, California (the site). Although 48 constituents were detected at least one time in the media sampled, nine constituents were assessed as both carcinogenic and noncarcinogenic constituents and three constituents were not quantitatively assessed due to insufficient toxicological data.

This HRA followed the guidance in the Department of Toxic Substances Control (DTSC) Preliminary Endangerment Assessment (PEA) guidance manual (DTSC, 1999), the U.S. Environmental Protection Agency Risk Assessment Guidance for Superfund volume 1, Human Health Evaluation Manual (RAGs) (USEPA, 2004), the Massachusetts Department of Environmental Protection (MADEP) Characterizing Risks posed by Petroleum Contaminated Sites manual (MADEP, June, 2001), the DTSC Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (DTSC, February 7, 2005), the DTSC Human and Ecological Risk Division (HERD)-approved Johnson & Ettinger soil gas screen, version 2.0 model (January 21, 2005), the DTSC-HERD-approved Johnson & Ettinger groundwater screen, version 3.0 model (January 21, 2005) and the DTSC LeadSpread 7 Model.

The maximum detected concentration or the upper confidence level, whichever was lower pursuant to the ProUCL guidance (USEPA, 2004), was used as the exposure point concentration in this HRA. One-half the reporting limit was used in the statistical analyses when the constituent was not detected in concentrations greater than the reporting limit (USEPA, 2004). Those chemicals of concern that had both reference doses and slope factors available, were assessed as both noncarcinogenic and carcinogenic compounds. Those constituents that were detected in multiple media were assessed via the appropriate exposure pathway in multiple media.

The results of the HRA indicate that the estimated individual hazard quotients (HQ) of the 39 noncarcinogenic constituents did not exceed the target hazard quotient of 1, except for thallium. The estimated hazard quotient for thallium was 1.4. Thallium was detected in three of 69 soil samples and was not used, handled, stored nor is it a waste by-product of the process operations conducted onsite. Therefore, this hazard quotient more than likely is a reflection of the conservative nature of the risk assessment.

The results of the HRA indicate that the estimated individual risks of the 15 carcinogenic constituents are less than 1 x 10<sup>-5</sup> the target risk value, except for arsenic, vinyl chloride and tetrachloroethene (PCE). The estimated risk for arsenic via the oral and dermal contact-exposure routes is 2.42 x 10<sup>-4</sup>. The estimated risk for PCE via inhalation from soil gas is 5.10 x 10<sup>-5</sup> and for vinyl chloride via inhalation from soil gas 1s 1.30 x 10<sup>-3</sup>.

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## HUMAN HEALTH RISK ASSESSMENT Associated Plating Company 9636 Ann Street, Santa Fe Springs, California

The oral and dermal contact exposure routes assume a child and an adult are onsite consuming soil for 350 days for six and 24 years, respectively. As the site is currently an operating industrial facility, the likelihood of this exposure route is very low.

Additionally, the estimated risks due to exposure to arsenic in the soil matrix via the oral and dermal contact routes and to exposure to PCE in soil vapor via the inhalation exposure route are within USEPA's "safe and protective of public health" risk range of 1 x 10<sup>-4</sup> to 1 x 10<sup>-6</sup> (Federal Register 56(20):3535, 1991).

Risks were estimated via the inhalation route of exposure to volatile organic compounds (VOCs) detected in the soil vapor underlying the site using the DTSC-HERD modified Johnson & Ettinger soil gas screen model which assumes: (1) a theoretical building is placed onsite, (2) no transformation, i.e., degradation processes occur, (3) the areal extent of contamination is greater than the building floor in contact with the soil, (4) the soil gas is at a steady state condition, (5) the VOCs assessed are homogenously distributed and (6) all vapors originating below the building will enter the building.

The area with the greatest detected concentration of vinyl chloride in soil gas, 210 micrograms per liter (µg/L), is located exterior to the existing plating shop building approximately 2-feet beneath a concrete pad that is 3-feet below ground surface (bgs).

Remediation of the area with the greatest detected concentration of vinyl chloride in soil gas, 210  $\mu$ g/L, and subsequent recalculation of risk estimates may be warranted.

### 1.0 INTRODUCTION

This report presents the results of a Human Health Risk Assessment (HRA) for Associated Plating Company located at 9636 Ann Street, Santa Fe Springs, California (the site).

The purpose of this HRA was to evaluate the potential adverse health impacts due to exposure to concentrations of constituents detected in the soil matrix, soil vapor and groundwater underlying the site. If a constituent was detected one time in the media sampled, it was retained and quantitatively assessed in this HRA. This HRA assessed the potential risk and hazard attributable to exposure to 15 carcinogenic constituents and 39 noncarcinogenic constituents which are listed in the *Carcinogens and Noncarcinogens* table.

This HRA followed the guidance in the Department of Toxic Substances Control (DTSC) Preliminary Endangerment Assessment (PEA) guidance manual (DTSC, 1999), the U.S. Environmental Protection Agency Risk Assessment Guidance for Superfund volume 1, Human Health Evaluation Manual (RAGs) (USEPA, 2004), the Massachusetts Department of Environmental Protection (MADEP) Characterizing Risks posed by Petroleum Contaminated Sites manual (MADEP, June, 2001), the DTSC Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (DTSC, February 7, 2005), the DTSC Human and Ecological Risk Division (HERD)-approved Johnson & Ettinger soil gas screen, version 2.0 model (January 21, 2005), the DTSC-HERD-approved Johnson & Ettinger groundwater screen, version 3.0 model (January 21, 2005) and the DTSC LeadSpread 7 Model.

As the USEPA and the State of California Office of Environmental Health Hazard Assessment (OEHHA) have not published toxicity values, i.e., Reference Doses (RfDs), for total petroleum hydrocarbons (TPH) the guidance in the Massachusetts Department of Environmental Protection approach to characterizing risks posed by petroleum contaminated sites was used to obtain a surrogate RfD for the speciated carbon chains C6-C10, C10-C18 and C18-C40 (MADEP, 2001). The potential adverse health impacts due to exposure to the speciated carbon chains C6-C10, C10-C18 and C18-C40 in onsite soils were then assessed by following the appropriate equations in DTSC's PEA manual.

The Johnson and Ettinger Model (soil gas screen version 2.0; April, 2003) modified by DTSC-HERD to include the OEHHA unit risk factors (URFs) and reference concentrations (RfCs) was used to evaluate the potential adverse health impacts due to inhalation of the detected constituents in soil vapor underlying the site based on the assumptions: (1) the receptors are inside a theoretical onsite building underneath of which these volatile organic compounds (VOCs) are only diffusing upwards and (2) the receptors are exposed to these constituents for 250 days per year for 25 years.

The Johnson and Ettinger Model (groundwater screen version 3.0; April, 2003) modified by DTSC-HERD to include the OEHHA URFs and RfCs was used to evaluate the potential adverse health impacts due to inhalation of the detected constituents in groundwater underlying the site based on the assumptions: (1) the receptors are inside a theoretical onsite building underneath of

which these VOCs are only diffusing upwards and (2) the receptors are exposed to these constituents for 250 days per year for 25 years.

DTSC's LeadSpread 7.0 Model was used to evaluate the potential health impacts due to exposure to lead in onsite soils via the ingestion and inhalation exposure routes. The LeadSpread Model estimates the blood lead levels, expressed as micrograms per deciliter (µg/dl), in the blood of adults and children potentially exposed to the residual concentrations of lead. The Model assumes these receptors will be exposed to the residual concentrations of lead in the air, through the ingestion of soil and particulates, in water and in home-grown produce, overly conservative, i.e., health protective assumptions. The LeadSpread Model does not account for the depth at which the concentration of lead was detected in site soils.

/mg/S

The data collected from previous investigations conducted by URS Corporation (URS) in 2001 and 2002, Komex H2O Science (Komex) in 2004 and WorleyParsons Komex in 2006 was used in the risk assessment.

#### 2.0 SUMMARY OF FIELD ACTIVITIES

# Site Description

The site currently operates as the Associated Plating Company (APC), a plating shop for small metallic components.

The site consists of an approximately 17,000 square foot (sq. ft.) concrete tilt-up building situated on approximately 1.25 acres. The plating facility specializes in the use of fused tin and tin/lead alloys using electro- and electroless plating. Nickel and copper are the most commonly used metals. Precious metal plating is also performed using silver, gold, tin, zinc and aluminum. Several plating lines with associated dip tanks are located within the facility. APC handles hazardous waste in two units authorized by the DTSC on August 4, 1993 under Permit By Rule (Komex, 2005).

The site can be divided into six areas, described below:

- Administrative offices
- · Shipping, receiving and inspection
- Main plating facility includes lines 1 through 5, a maintenance room and maintenance stockroom
- Exterior storage includes the former tetrachloroethene (PCE) aboveground storage tank (AST), empty drum storage and chemical storage
- Wastewater treatment includes the location of the former vapor degreaser, holding tanks, clarifiers, filter press, batch neutralization tanks, sludge dryer, cyanide destruction unit, stripping department and ion exchange units
- Employee parking and vacant land

### Site Background

Previous investigations have been conducted by different environmental consultants and DTSC since 1994. These investigations are summarized in the Facilities Investigation Report, Associated Plating Company, Santa Fe Springs, California, prepared by Komex, dated May 9, 2005.



Data from the investigations conducted by URS in 2001 and 2002, Komex in 2004 and WorleyParsons Komex in 2006 was used in this risk assessment.

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#### 3.0 IDENTIFYING CHEMICALS OF CONCERN

CX

Typically only the most toxic, persistent and prevalent chemicals detected at the site are quantitatively evaluated in a risk assessment. The risk assessment therefore can focus on those chemicals that are expected to account for the majority of the estimated health impacts at any given site. These identified chemicals are referred to as chemicals of concern (COCs). COCs can be identified based on criteria such as frequency of detection, comparison with background, toxicity or whether a chemical can be considered a common laboratory contaminant (USEPA 1989).

DTSC indicated that if a constituent was detected one time within the media sampled it should be retained and quantitatively assessed within the risk assessment (DTSC, 2006). Therefore, all constituents detected in the soil matrix, in soil gas and groundwater in the previous investigations were retained and quantitatively assessed using the appropriate exposure pathway.

A conceptual site model was developed to identify the potential complete exposure pathways by which constituents detected in soil, and soil vapor and groundwater underlying the site could impact human health (Figure 1).

The conceptual site model identifies potential sources, environmental release mechanisms, potential migration pathways, potential exposure pathways, potential exposure routes and potential human receptors onsite.

The conceptual site model identified the following potential complete exposure pathways:

- Current/future onsite indoor worker
  - inhalation of volatiles in soil and/or groundwater that have migrated to indoor air
- Current/future onsite outdoor worker
  - ingestion and dermal contact with surface soil
  - inhalation of volatiles/dust from soil in outdoor air
- Future construction worker
  - ingestion/dermal contact with surface and subsurface soil
  - inhalation of volatiles/dust from soil in excavation air
- Hypothetical future onsite resident
  - ingestion/dermal contact with surface soil
  - inhalation of volatiles in soil and/or groundwater that have migrated to indoor air

Consumption of fruit or vegetables grown in soil is not considered to be a complete potential exposure pathway under current or future site conditions. Under current conditions the site is an operating plating shop. Consumption of garden crops is not considered a complete potential exposure pathway in the future because more than likely the surficial soil would be removed and

replaced from the site during demolition activities to meet compaction standards for a residential building. Any impacted soil remaining onsite will generally be below the root-zone of backyard garden fruit and vegetables.

Potential direct exposures (ingestion and dermal contact) to groundwater are not complete pathways due to the fact that drinking water is provided by a remote municipal water supply and the depth to groundwater underlying the site is at least 34-feet bgs, so there is little chance of incidental exposure. (Discharge of groundwater to surface water also is not considered to be a complete migration pathway since there are no surface water bodies that are recharged by artesian flow or groundwater seepage in the vicinity of the site.)

4

The potential for chemicals in soil to leach to underlying groundwater used as a drinking water source is considered very low as the Silverado aquifer is at least 210-feet bgs (Komex, 2005).

There is very limited ecological habitat at and near the site. Wetlands were not observed onsite or at adjacent sites. Also no pits, ponds or lagoons were observed onsite. There are no natural or undisturbed areas onsite. The only vegetated area is used as employee parking and storage of discarded equipment. Based on the lack of viable ecological habitat at and near the site, there are no complete ecological pathways onsite.

A total of 54 chemicals of concern were quantitatively assessed in the risk assessment.

# 4.0 TOXICITY ASSESSMENT

Toxicity values are combined with exposure factors to estimate noncancer adverse health effects and cancer risks. Toxicity values include reference doses (RfDs), reference concentrations (RfCs), unit risk factors (URFs) and slope factors (SFs) that are used to evaluate noncancer adverse health effects and cancer risks. USEPA (1989) has developed the following hierarchical toxicity identification protocol:

- Integrated Risk Information System (IRIS, USEPA 1999b)
- Health Effects Assessment Summary Tables (HEAST, USEPA 1997b)
- National Center for Environmental Assessment (NCEA)

The State of California Office of Environmental Health Hazard Assessment (OEHHA) has developed their own URFs SFs, RfCs and RfDs. OEHHA's values are preferentially used instead of USEPA's when available.

Of the 54 chemicals of concern quantitatively assessed in the risk assessment, 15 were assessed as carcinogens and 39 were assessed as noncarcinogens. If a constituent, such as arsenic, had both a slope factor and a reference dose it was assessed both as a carcinogen and as a noncarcinogen.

The slope factors for 1,1,2,2-tetrachloroethane, 1,1-dichloroethane, 1,1-dichloroethylene, benzene, bromodichloromethane, chloroform, naphthalene, PCE, TCE, vinyl chloride and arsenic, beryllium, cadmium, hexavalent chromium and nickel were obtained from OEHHA (Appendix A).

The reference doses for 1,1-dichloroethylene, ethylbenzene, isopropylbenzene, naphthalene, trans-1,2-dichloroethene, toluene, antimony, barium, trivalent chromium, cyanide, mercury, molybdenum, selenium, silver, thallium, zinc and the reference dose for the oral route of exposure for arsenic were obtained from USEPA, IRIS.

The reference doses for 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, cis-1,2-dichloroethylene and cobalt are from USEPA, PPRTV. The reference dose for copper is from USEPA, HEAST. The reference doses for sec-butylbenzene, n-butylbenzene, tert-butylbenzene and vanadium are from USEPA, NCEA. The reference doses for C6-C10, C10-C18 and C18-C40 are from MADEP.

Lead was assessed using DTSC's LeadSpread 7 Model. Volatile organic compounds detected in soil vapor and groundwater underlying the site were assessed using the DTSC-HERD modified Johnson & Ettinger models that contain the unit risk factors and reference concentrations from OEHHA.

The exposure point concentrations, the slope factors and reference doses for the 43 constituents detected in the soil matrix and quantitatively assessed are presented in the Exposure Point

Concentrations, Slope Factors (SFs) and Reference Doses (RfDs) table.

The exposure point concentrations, unit risk factors and reference concentrations for the 19 volatile organic compounds detected in soil vapor and groundwater underlying the site are presented in the DTSC-HERD modified Johnson & Ettinger model outputs (Appendices B and C).

# 4.1 Types of Toxicity Values

USEPA recognizes that fundamental differences exist between noncarcinogenic and carcinogenic effects of chemicals. As a result of these differences, the evaluation of potential human health effects associated with noncarcinogenic and carcinogenic chemicals is conducted separately. As summarized in IRIS (USEPA, 1999b) and HEAST (USEPA, 1997b), USEPA has developed reference doses to evaluate noncancer effects and slope factors to evaluate carcinogenic effects. If a chemical is considered to cause both noncancer health effects and cancer risks, both reference doses and slope factors may be listed for the chemical. Other chemicals may have only reference doses or slope factors developed, depending on the observed toxic effects.

#### 4.1.1 Reference Doses

Noncancer health effects are evaluated using a reference dose, which is expressed in units of milligrams per kilogram body weight per day (mg/kg-day). A reference dose represents a USEPA-developed, estimated daily exposure level (dose) to which humans may be exposed for a portion of their lifetime (in the case of subchronic reference doses) or for their entire lifetime (in the case of chronic reference doses), without expectation of adverse health effects. USEPA assumes the existence of a threshold concentration for noncancer effects. Below this concentration toxic effects are not expected to occur (USEPA, 1989).

Reference doses are often based on animal laboratory studies, from which data are then extrapolated to a chemical concentration considered "safe" for humans. The threshold of observed effects in test animals is divided by uncertainty factors (UFs) and possibly modifying factors (MFs). Separate UFs, each of which may be up to 10, are used to account for each of the following:

- Protection of sensitive individuals within the receptor population.
- Extrapolation of toxicity data from animals to humans.
- Extrapolation of subchronic toxicity data to chronic exposure durations.
- Extrapolation from a lowest-observed adverse effect level (LOAEL) to a no-observed adverse effect level (NOAEL) to assess toxicity.

A modifying factor of one to 10 (generally no higher than 3) is typically used to account for other considerations such as the perceived adequacy of the scientific data. The uncertainty factor and the modifying factors for a given chemical are then multiplied together to provide a total uncertainty factor, which is then used to derive a chronic reference dose (cRfD). In order to

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derive a reference dose protective of the most sensitive members of the human population, the uncertainty factor may range from one to 10,000. The higher the total uncertainty factor, the more uncertainty and degree of conservativeness there are in the resultant chronic reference dose.

The chronic reference dose is the USEPA-established dose used to evaluate health effects associated with long-term (chronic) exposures of at least seven years (USEPA 1989). The subchronic reference dose (sRfD) is the dose used to evaluate health effects associated with exposures less than seven years (USEPA 1989).

USEPA has developed route-specific reference doses for the oral and inhalation routes of exposure. However, USEPA has not developed reference doses to specifically evaluate possible impacts from dermal (skin) exposure. For this reason, oral reference doses are typically used to estimate possible noncancer health effects from dermal exposure consistent with USEPA (1989) guidance.

# 4.1.2 Cancer Slope Factors

USEPA has developed route-specific slope factors for chemicals that are known or potential human carcinogens. USEPA (1989) defines a slope factor as a plausible upper-bound estimate of the probability of a carcinogenic response in human populations per unit intake of a chemical (averaged over an expected lifetime of 70 years). Slope factors are used to estimate cancer risks and are expressed in units of risk per dose in mg/kg-day ([mg/kg-day]<sup>-1</sup>).

Most slope factors are based on a continuous exposure, linear non-threshold extrapolation model (generally the linear multistage model [LMS]) which is predicated on the assumption that any level of exposure to a carcinogen will result in some degree of carcinogenic risk, however minute (i.e., no threshold is assumed to exist). The extrapolation model derives a mathematical relationship between the generally high chemical doses and resulting effects measured in laboratory animals or epidemiological (human) studies, and applies that relationship to extrapolate effects for the generally lower doses that occur in the environment.

This low-dose extrapolation is generally regarded as a very conservative (health protective) approach. The resulting slope factor typically represents at least the upper 95th percentile of the measured dose-response relationship. USEPA has developed slope factors for oral and inhalation exposure routes but not for the dermal route. Therefore, oral slope factors are typically used to evaluate potential effects from dermal exposure (USEPA, 1989).

#### 5.0 EXPOSURE ASSESSMENT

The exposure assessment provides a scientifically defensible basis for the identification of potentially exposed human receptors and the most likely ways they might be exposed to chemicals of concern at the site. As defined by USEPA (1989), the following four components are necessary for chemical exposure to occur:

- A chemical source and a mechanism of chemical release to the environment
- An environmental transport medium (e.g., soil) for the released chemical
- A point of contact between the contaminated medium and the receptor (i.e., the exposure point)
- An exposure route (e.g., ingesting chemically-impacted soil) at the exposure point

All four of these elements must be present for an exposure pathway to be considered complete and for chemical exposure to occur (USEPA, 1989).

This HRA evaluated the potential for the receptors to be exposed to the maximum detected concentrations or the upper confidence level (UCL), whichever value was less, pursuant to the ProUCL User's Guide (USEPA, 2004), of the chemicals of concern detected at least one time in the media onsite. Data collected from the top 10-feet of the soil matrix were used in the risk assessment. When the chemical of concern was not detected at a concentration greater than its reporting limit, one-half the reporting limit was used in the statistical calculations pursuant to the ProUCL User's Guide (USEPA, 2004). The ProUCL model output is included as Appendix D.

### 5.1 Average and Reasonable Maximum Exposures

Typically two types of exposure scenarios are evaluated in a risk assessment; an average exposure scenario, and a reasonable maximum exposure (RME) scenario. The average exposure scenario represents a more typical exposure, believed to be most likely to occur, while the reasonable maximum exposure scenario represents a plausible worst case situation - one that is not very likely to occur. USEPA guidance (1989) recommends evaluating a reasonable maximum exposure scenario. The reasonable maximum exposure scenario estimates the exposure a receptor might receive using highly conservative intake assumptions (e.g., 90<sup>th</sup> or 95<sup>th</sup> percentile for most intake assumptions) and upper-bound estimates of chemical concentrations. It is assumed that by evaluating a reasonable maximum exposure scenario potential health risks to extremely sensitive individuals within a particular receptor population will be adequately addressed. As an added measure of conservatism, only a reasonable maximum exposure scenario was evaluated in this HRA.)

The DTSC PEA guidance contains formula that incorporates default values which were selected by DTSC to be health protective (please refer to pages 12-19 herein). This approach inherently assumes both an adult and child receptor will be assessed for each complete exposure route.

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### 6.0 RISK CHARACTERIZATION

Equation 2.3 in DTSC's PEA guidance manual was used to evaluate the potential adverse health impacts due to the ingestion of and dermal contact with those constituents detected in the soil matrix. Equations 2.8 and 2.4 in DTSC's PEA guidance manual were used to evaluate the potential adverse health impacts due to the inhalation of non-VOCs, pursuant to DTSC's PEA guidance (page 2-25; DTSC, 1999).

The DTSC-HERD modified Johnson & Ettinger models for soil gas and groundwater were used to evaluate the potential adverse impacts due to inhalation of VOCs detected in these media.

Lead was assessed using the DTSC LeadSpread 7 Model.

The risk characterization process incorporates data from the exposure and toxicity assessments. The exposure assessment information necessary to estimate risks and hazards includes the estimated chemical intakes, exposure modeling assumptions, and the exposure pathways assumed to contribute to the majority of exposure for each receptor over a given time period (USEPA, 1989a). This information is provided herein for every chemical to which the receptors may be exposed (pages 12-19, Figure 1, Tables 2-4, Appendices A-D).

The method by which chemicals with carcinogenic and/or noncarcinogenic effects are evaluated to determine whether they pose a risk or an adverse impact to human health is discussed below, relative to the exposure pathways by which the receptors may be exposed to the exposure point concentrations of the chemicals of concern.

### 6.1 Ingestion and Dermal Contact Pathways

To provide an evaluation of chronic risk along the ingestion and dermal contact pathways the following equations (Equation 2.3) for risk and hazard were used consistent with PEA guidance (page 2-23, DTSC, 1999).

$$Risk_{soil} = ((SF_o \times C_s) \times (1.57 \times 10^{-6}) + (SF_o \times C_s) \times (1.87 \times 10^{-5}) \times ABS)$$

$$Hazard_{soil} = ((C_s/RfD_o) \times (1.28 \times 10^{-5}) + (C_s/RfD_o) \times (1.28 \times 10^{-4}) \times ABS)$$

Where:

 $SF_o$  = oral cancer slope factor (mg/kg-day)<sup>-1</sup>

 $C_s$  = concentration in soil (mg/kg)

 $RfD_o$  = oral reference dose (mg/kg-day)

ABS = absorption fraction (dimensionless)

These equations incorporate the following default exposure factors for estimating chronic risk or hazard via the ingestion and dermal contact pathways:

# Default Exposure Factors: Risk Assessment

Exposure Duration - 24 years (adults), 6 years (children)

Exposure Frequency (ingestion) - 350 days/year

Exposure Frequency (dermal contact) - 100 days/year (adults) and 350 days/year (children)

Body Weight - 70 kg (adults), 15 kg (children)

Incidental Soil Ingestion Rate - 100 mg/day (adults) and 200 mg/day (children)

Exposed Skin Area - 5,800 cm<sup>2</sup> (adult) and 2,000 cm<sup>2</sup> (children)

Soil to Skin Adherence Factor - 1.00 mg/cm<sup>2</sup>

Averaging Time - 70 years

# Default Exposure Factors: Hazard Assessment

Exposure Duration - 6 years for children (birth to six years);

Exposure Frequency (ingestion and dermal contact) - 350 days/year,

Incidental Soil Ingestion Rate - 200 mg/day (children)

Body Weight - 15 kg (children)

Exposed Skin Area - 2,000 cm2 (children)

Soil to Skin Adherence Factor - 1.00 mg/cm<sup>2</sup>

Averaging Time - 6 years

Chemical specific values for the absorption fractions (ABS) parameter were obtained from Table 2 (page A-6, DTSC, 1999). The values used for the absorption fractions parameters are presented in the *Estimated Risks and Hazards* table.

The default exposure factors provide a conservative estimate (i.e., a very health-protective estimate) of chronic risk and hazard to human health due to exposure to the chemicals of concern detected in the soil matrix via the ingestion and dermal contact routes of exposure. The calculated estimates of risk and hazard are provided in the *Estimated Risks and Hazards* table.

### 6.2 Inhalation Pathway

To provide an evaluation of chronic risk along the inhalation pathway the following equations (Equations 2.8 and 2.4) for estimating risk and hazard due to exposure to metals detected in the soil matrix were used consistent with PEA guidance (pages 2-24 and 2-30, DTSC, 1999).

Equation 2.8

$$C_a = C_s \times (5 \times 10^{-8} \text{ kg/m}^3)$$

#### Where:

 $C_a$  = concentration in air, mg/m<sup>3</sup>  $C_s$  = concentration in soil, mg/kg

#### Equation 2.4:

$$Risk_{air} = SF_i \times C_a \times 0.149$$

$$Hazard_{air} = (C_a/RfD_i) \times 0.639$$

# Where:

C<sub>a</sub> = concentration in air, mg/m<sup>3</sup> SF<sub>i</sub> = inhalation cancer slope factor (mg/kg-day)<sup>-1</sup> RfD<sub>i</sub> = the inhalation reference dose, mg/kg-day

The risk and hazard for the air pathway are based on either the exposure to volatile emissions for VOCs or the exposure to fugitive dust emissions for non-VOCs. The Office of Scientific Affairs defines a VOC as a chemical with a vapor pressure of 0.001 mm mercury or higher and a Henry's Law Constant of 1 x 10<sup>-5</sup> or higher. Exposure to a chemical via the air pathway can be adequately performed using either volatilization or fugitive dust scenarios; it is not necessary to do both (DTSC, 1999).

For this risk assessment exposure to the metals detected in the soil matrix via the air pathway was performed using the fugitive dust scenario.

# 6.3 The DTSC HERD-modified Johnson and Ettinger Models

# Soil gas screen, version 2.0 (April, 2003) January 21, 2005 Model

The exposure point concentrations (either the maximum detected concentration or the upper confidence level as statistically determined using ProUCL) of the VOCs detected at least one time in the vapor phase underlying the site were assessed by the DTSC-HERD-modified Johnson & Ettinger Model soil gas screen, version 2.0; April, 2003 (January 21, 2005).

All values used for the parameters in the model were default values selected to be representative of the most conservative, i.e., health protective, conditions, except for the exposure duration and exposure frequency parameters which were modified to reflect an industrial land use. The exposure duration was changed from 30 years to 25 years and the exposure frequency was changed from 350 days per year to 250 days per year (5 days per week for 50 weeks per year), both indicative of a commercial setting and consistent with USEPA and Cal-EPA guidance (USEPA, 1989).

Additionally, site specific soil type data was used in the model. Based on data previously collected by Komex, the soil type silty clay was used in the model.

The Johnson & Ettinger Model contains a database of VOCs listed by Chemical Abstract Services (CAS) number. A constituent must be contained within the database in the model in order to assess the potential health impacts of the constituent using the model, or chemical and toxicological information specific to the chemical can be added to the model's database.

The Johnson & Ettinger Model estimates the potential adverse health impacts via inhalation due to the vertical migration of the constituents through the soil column into an onsite building. This estimation of the potential adverse health impacts is overly conservative, as the underlying assumption is that the constituents are entirely diffusing vertically.

The Johnson & Ettinger Model was used to calculate incremental risks and hazards by the following equations imbedded within the model:

# Risk = $\frac{\text{URF x EF x ED x C}_{\text{building}}}{\text{AT}_{\text{c}} \text{ x 365 days/year}}$

Where:

URF = unit risk factor  $\mu g/m^3$ ; comparable to a SF

EF = exposure frequency; indicative of commercial land use, consistent with

USEPA and Cal-EPA guidance = 250 days/year

ED = exposure duration; indicative of commercial land use, consistent with

USEPA and Cal-EPA guidance = 25 years

C<sub>building</sub> = vapor concentration in the building, milligrams per cubic meter (mg/m<sup>3</sup>)

per µg/kg soil; calculated by the model

 $AT_c$  = averaging time for carcinogens; default value = 70

# Hazard Quotient = $EF \times ED \times 1/RfC \times C_{building}$ $AT_{nc} \times 365 \text{ days/year}$

Where:

RfC = Reference Concentration mg/m<sup>3</sup>; comparable to a RfD

EF = exposure frequency; value indicative of commercial land use, consistent

with USEPA and Cal-EPA guidance = 250 days/year

ED = exposure duration; value indicative of commercial land use, consistent with

USEPA and Cal-EPA guidance = 25 years

C<sub>building</sub> = vapor concentration in the building, milligrams per cubic meter (mg/m<sup>3</sup>)

per µg/kg soil; calculated by the model

 $AT_{nc}$  = averaging time for noncarcinogens; default value = 30

# Groundwater screen, version 3.0 (April, 2003) January 21, 2005 Model

The exposure point concentrations (either the maximum detected concentration or the upper confidence level as statistically determined using ProUCL) of the VOCs detected at least one time in the groundwater underlying the site were assessed by the DTSC-HERD-modified

Johnson & Ettinger Model groundwater screen, version 3.0; April, 2003 (January 21, 2005).

All values used for the parameters in the model were default values selected to be representative of the most conservative, i.e., health protective, conditions, except for the exposure duration and exposure frequency parameters which were modified to reflect an industrial land use. The exposure duration was changed from 30 years to 25 years and the exposure frequency was changed from 350 days per year to 250 days per year (5 days per week for 50 weeks per year), both indicative of a commercial setting and consistent with USEPA and Cal-EPA guidance (USEPA, 1989).

Additionally, site specific soil type data was used in the model. Based on data previously collected by Komex, the soil type silty clay was used in the model.

The Johnson & Ettinger Model contains a database of VOCs listed by CAS number. A constituent must be contained within the database in the model in order to assess the potential health impacts of the constituent using the model, or chemical and toxicological information specific to the chemical can be added to the model's database.

The Johnson & Ettinger Model estimates the potential adverse health impacts via inhalation due to the vertical migration of the constituents through the soil column into an onsite building. This estimation of the potential adverse health impacts is overly conservative, as the underlying assumption is that the constituents are entirely diffusing vertically.

The Johnson & Ettinger Model was used to calculate incremental risks and hazards by the following equations imbedded within the model:

Risk =  $\underbrace{\text{URF x EF x ED x C}_{\text{building}}}_{\text{AT}_c \text{ x 365 days/year}}$ 

Where:

URF = unit risk factor  $\mu g/m^3$ ; comparable to a SF

EF = exposure frequency; indicative of commercial land use, consistent with

USEPA and Cal-EPA guidance = 250 days/year

ED = exposure duration; indicative of commercial land use, consistent with

USEPA and Cal-EPA guidance = 25 years

 $C_{\text{building}}$  = vapor concentration in the building, milligrams per cubic meter (mg/m<sup>3</sup>)

per μg/kg soil; calculated by the model

 $AT_c$  = averaging time for carcinogens; default value = 70

Hazard Quotient =  $EF \times ED \times 1/RfC \times C_{building}$ AT<sub>nc</sub> x 365 days/year

Where:

RfC = Reference Concentration mg/m<sup>3</sup>; comparable to a RfD

EF = exposure frequency; value indicative of commercial land use, consistent

with USEPA and Cal-EPA guidance = 250 days/year

ED = exposure duration; value indicative of commercial land use, consistent with USEPA and Cal-EPA guidance = 25 years

 $C_{\text{building}}$  = vapor concentration in the building, milligrams per cubic meter (mg/m<sup>3</sup>) per  $\mu$ g/kg soil; calculated by the model

 $AT_{nc}$  = averaging time for noncarcinogens; default value = 30

# 6.4 DTSC's LeadSpread 7.0 Model

DTSC's LeadSpread 7.0 Model estimates the hazard due to exposure to lead in air, onsite soils/dust, water and homegrown produce for adults and children within the residential exposure scenario. Typically lead concentrations in air, water and home-grown produce are not measured onsite. Therefore the model extrapolates these concentrations from the measured concentrations of lead in onsite soils.

The following information contained within the model are model-derived values that represent the percent contribution for each exposure scenario evaluated when the Student's-t UCL of 11.1 mg/kg is used as the exposure point concentration (Appendix D). The percent contributions of each exposure pathway will change as the exposure point concentrations change, because they are model-derived.

# Residential Exposure Scenario

#### Adults:

Soil Contact - 0%

Soil Ingestion - 1%

Background Inhalation - 4%

Site Inhalation - 0%

Drinking Water Ingestion from an onsite source impacted by concentrations of lead detected in onsite soils - 74%

Background Ingestion of Homegrown Produce - 21%

Ingestion of Homegrown Produce planted in onsite soils impacted by concentrations of lead - 0%

#### Children:

Soil Contact - 0%

Soil Ingestion - 5%

Background Inhalation - 2%

Site Inhalation - 0%

Drinking Water Ingestion from an onsite source impacted by concentrations of lead detected in onsite soils - 59%

Background Ingestion of Homegrown Produce - 33%

Ingestion of Homegrown Produce planted in onsite soils impacted by concentrations of lead - 0%

# Occupational Exposure Scenario

#### Adults:

Soil Contact - 0%

Soil Ingestion - 1%

Background Inhalation - 3%

Site Inhalation - 0%

Drinking Water Ingestion from an onsite source impacted by concentrations of lead detected in onsite soils - 75%

Background Ingestion of Homegrown Produce - 21%

Ingestion of Homegrown Produce planted in onsite soils impacted by concentrations of lead - 0%

# **Exposure Parameters**

The following information contained within the model are default values for the exposure parameters for both residential and occupational exposure scenarios.

#### Adults:

Days per Week - 7 (residential); 5 (occupational)

Geometric Standard Deviation - 1.6

Blood Lead Level of Concern - 10 micrograms per deciliter of blood (µg/dl)

Skin Area - 5700 square centimeters (cm<sup>2</sup>) (residential); 2900 cm<sup>2</sup> (occupational)

Soil Adherence - 70 micrograms per square centimeter (µg/ cm<sup>2</sup>)

Dermal Uptake constant - 0.0001 µg/dl

Soil ingestion - 50 milligrams per day (mg/day)

Ingestion constant - 0.04 µg/dl

Bioavailability - 0.44

Breathing rate - 20 cubic meters per day (m<sup>3</sup>/day)

Inhalation constant - 0.08 µg/dl

Water ingestion - 1.4 liters per day (L/day)

Food ingestion - 1.9 kilograms per day (kg/day)

Lead in Store purchased produce - 3.1 micrograms per kilogram (µg/kg)

Lead in Homegrown Produce – 9.9 µg/kg

#### Children:

Days per Week - 7

Geometric Standard Deviation - 1.6

Blood Lead Level of Concern - 10 µg/dl

Skin Area - 2900 cm<sup>2</sup>

Soil Adherence - 200 μg/ cm<sup>2</sup>

Dermal Uptake constant - 0.0001 µg/dl

Soil ingestion - 100 mg/day

Ingestion constant - 0.16 µg/dl

Bioavailability - 0.44
Breathing rate - 6.8 m³/day
Inhalation constant - 0.19 μg/dl
Water ingestion - 0.4 L/day
Food ingestion - 1.1 kg/day
Lead in Store purchased produce - 3.1 μg/kg
Lead in Homegrown Produce - 9.9 μg/kg

#### **Estimation of Hazards**

The percentile blood lead concentration is estimated by the model to provide an estimate of the percentage of a population of adults and children that would be expected to have blood lead levels that exceed the threshold value if they lived onsite and were exposed to site soils 7 days per week.

DTSC's LeadSpread 7.0 Model results indicate that lead does not pose an unacceptable hazard to adults or children exposed to the exposure point concentration of lead in site soils, 11.1 mg/kg. These results are provided in the *LeadSpread 7.0 Model Results* tables.

#### 6.5 Noncancer Adverse Health Effects

Noncarcinogenic effects or hazards are typically evaluated by comparing an exposure level over a specified time period (e.g., a lifetime or 25 years), with a reference dose based on a similar time period.

Hazard quotient values less than 1 indicate that potential exposures to noncarcinogenic COCs are not expected to result in toxicity (USEPA, 1989). Summing the hazard quotient values to derive a hazard index (HI) provides an estimation of the total potential hazard due to a simultaneous exposure to all the noncarcinogenic COCs. However, summing hazard quotient values is not appropriate when the chemicals of concern target different organs within the body (USEPA, 1989; DTSC, 1999). Therefore, as the noncarcinogenic chemicals of concern quantitatively assessed in this risk assessment target different organs within the body the estimated hazard quotients were not summed.

#### 6.6 Lifetime Excess Cancer Risk

Slope factors are used to estimate the potential risk associated with exposure to individual COCs. The slope factor is multiplied by the chronic daily intake averaged over 70 years to estimate lifetime excess cancer risk. "Excess" or "incremental" cancer risk represents the probability of an individual developing cancer over a lifetime as a result of chemical exposure, over and above the baseline or "background" cancer risk in the general population. Cancer risks and noncancer health hazards estimated in the HRA are regarded as estimated or theoretical results developed on the basis of the toxicity factors, chemical fate and transport, exposure assumption, and other inputs previously described. Cancer risks do not represent actual cancer cases in actual people.

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Rather, risks are calculated on the basis of an entirely hypothetical set of conditions. This assumed "exposure scenario" is developed to protect human health, and is based on standard USEPA and Cal-EPA methods and assumptions.

USEPA characterizes theoretical excess lifetime cancer risks below one in one million (10<sup>-6</sup>) as not of concern and has stated that risks between 10<sup>-6</sup> and one in 10,000 (10<sup>-4</sup>) are "safe and protective of public health" (Federal Register 56(20):3535, 1991). Remedial action is not generally required by USEPA for sites with a theoretical lifetime excess risk of less than 10<sup>-4</sup>.

The more stringent target risk of  $10^{-6}$  is typically applied to residential receptors. To provide perspective, a total theoretical lifetime excess cancer risk of one in  $100,000 \ (10^{-5})$  is frequently accepted by Cal-EPA for worker receptors at California sites, and the target risk for chemicals evaluated under State Proposition 65 regulations is  $10^{-5} \ (22CCR \ 12703)$ .

# 6.7 Multipathway Cancer Risk

Where: Total Risk

m

n

Based on regulatory guidelines, it is appropriate to combine risk estimates across exposure pathways for a given receptor. At the same time, exposure to multiple carcinogenic COCs is also typically considered to be additive. For exposures to multiple pathways and chemicals, the following equation was used to estimate total theoretical lifetime excess carcinogenic risks:

Total Risk = 
$$\sum_{p=1}^{m} \sum_{i=1}^{n} CR_{i,p}$$
  
= Excess cancer risk from exposure to n chemicals via m pathways  
= Number of exposure pathways  
= Number of chemicals

CR<sub>i,p</sub> = Potential cancer risk from exposure to chemical i via pathway p

This equation was used to estimate the total potential cancer risks due to exposure to the carcinogenic COCs via the ingestion, dermal contact and inhalation routes of exposure. The estimated risks, total risk, estimated hazards and hazard index are presented in the *Estimated Risks and Hazards* table.

#### 6.8 Estimation of Risks and Hazards

Fifteen chemicals of concern were assessed as carcinogens. Seven of these 15 carcinogenic COCs were detected in the soil matrix and were assessed via the ingestion and dermal contact exposure routes. Six metals were assessed via the inhalation exposure route. Four VOCs were detected in soil gas underlying the site and were therefore assessed via the inhalation exposure route. Seven VOCs were detected in groundwater underlying the site and were assessed via the inhalation exposure route.

Thirty-nine chemicals of concern were assessed as non-carcinogens. Thirty of these 39 noncarcinogenic COCs were detected in the soil matrix and were assessed via the ingestion and dermal contact exposure routes. Two metals were assessed via the inhalation route of exposure. Eleven VOCs were detected in the soil gas underlying the site and therefore were assessed via the inhalation route of exposure. Nineteen VOCs were detected in the groundwater underlying the site and therefore were assessed via the inhalation exposure route.

Estimated Risk Oral and Dermal Contact VOCs and non-VOCs – The estimated risk due to exposure to the nine CQCs detected in the soil matrix via the oral and dermal contact routes of exposure is 2.54 x 10<sup>-4</sup>. This estimated risk value exceeds the target risk of 1 x 10<sup>-5</sup> and is attributable to arsenic. However, this risk value is within USEPA's "safe and protective of public health" risk range of 1 x 10<sup>-4</sup> to 1 x 10<sup>-6</sup> (Federal Register 56(20):3535, 1991). The oral and dermal contact exposure routes assume a child and an adult are onsite consuming soil for 350 days for six and 24 years, respectively. As the site is currently an operating industrial facility, the likelihood of this exposure route is very low.

Estimated Risk Inhalation non-VOCs - The estimated risk due to exposure to the six COCs detected in the soil matrix is  $7.64 \times 10^{-6}$ . This risk value is less than the target risk of  $1 \times 10^{-5}$ .

Estimated Risk Inhalation VOCs Soil gas - The estimated risk due to exposure to the four VOCs detected in soil vapor underlying the site is  $1.36 \times 10^{-3}$  This estimated risk value exceeds the target risk of  $1 \times 10^{-5}$  and is attributable to vinyl chloride.

Estimated Risk Inhalation VOCs Groundwater - The estimated risk due to exposure to the seven VOCs detected in groundwater underlying the site is  $7.65 \times 10^{-6}$ . This risk value is less than the target risk of  $1 \times 10^{-5}$ .

Hazard Quotients Oral and Dermal Contact - The estimated hazard quotients due to exposure to the 30 COCs detected in the soil matrix are less than 1, the target hazard value, except for thallium. Thallium has a hazard quotient of 1.4. Thallium was detected three times in 69 soil samples. Thallium is not used, handled, stored, nor is it a waste-byproduct of the processes performed onsite. More than likely the estimated hazard quotient of thallium reflects the conservative nature of risk assessments.

Hazard Quotients Inhalation non-VOCs - The estimated hazard quotients due to exposure to the two metals detected in the soil matrix are less than 1, the target hazard value.

Hazard Quotients Inhalation VOCs Soil gas - The estimated hazard quotients due to exposure to the 11 VOCs detected in soil gas underlying the site are less than 1, the target hazard value.

Hazard Quotients Inhalation VOCs Groundwater - The estimated hazard quotients due to exposure to the 19 VOCs detected in groundwater underlying the site are less than 1, the target hazard value.

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Summed Risk - The total risk, summed across all exposure pathways for all chemicals of concern, is  $1.62 \times 10^{-3}$ , which exceeds the target risk value of  $1 \times 10^{-5}$  and is attributable to vinyl chloride detected in soil gas.

These estimated risk and hazards values are presented in the Estimated Risks and Hazards table.

#### 7.0 UNCERTAINTY ANALYSIS

The uncertainty analysis characterizes the propagated uncertainty in health risk assessments. These uncertainties are driven by variability in:

- The chemical data selection and assumptions used in the models with which concentrations at receptor locations were estimated.
- The variability of receptor intake parameters.
- The accuracy of toxicity values used to characterize exposure, hazards and cancer risks.

Additionally, uncertainties are introduced in the risk assessment when exposures to several substances across multiple pathways are summed.

Quantifying uncertainty is an essential element of the risk assessment process. According to USEPA's Guidance on Risk Characterization for Risk Managers and Risk Assessors, point estimates of risk "do not fully convey the range of information considered and used in developing the assessment" (USEPA, 1992). The following components of the risk assessment process can introduce uncertainties:

- 1. Data Collection and Evaluation
- 2. Exposure Assessment
- 3. Toxicity Assessment
- 4. Risk Characterization

Key uncertainties associated with these components are described below.

#### 7.1 Data Collection and Evaluation

The techniques used for data sampling and analysis, and the methods used for identifying chemicals for evaluation in this risk assessment, may result in a number of uncertainties. These uncertainties are itemized below in the form of assumptions.

- It was assumed that the nature and extent of chemical impacts on and near the site have been adequately characterized. If this assumption is not valid, then potential health impacts may be over- or underestimated.
- Systematic or random errors in the chemical analyses may yield erroneous data. These types of errors may result in a slight over- or underestimation of risk.

These types of errors may result in a slight over- or underestimation of risk.

# 7.2 Exposure Assessment

A number of uncertainties are associated with the exposure assessment, including estimation of exposure point concentrations and assumptions used to estimate chemical intakes. Key uncertainties associated with these components of the HRA are summarized below.

#### 7.2.1 Exposure Pathways

The exposure pathways evaluated in this HRA are expected to represent the primary pathways of exposure, based on the results of the chemical analyses, and the expected fate and transport of these chemicals in the environment. Minor or secondary pathways may also exist, but often cannot be identified or evaluated using the available data. The contribution of secondary pathways to the overall risk from the site is not likely to be significant. In addition, intake assumptions used herein are reflective of trends (usually for the most sensitive individual within an entire population), and as such are subject to intrinsic variability. In both cases, their presence introduces a level of uncertainty to this risk assessment process.

The DTSC-HERD modified Johnson & Ettinger groundwater screen model did not include isopropyltoluene (cymene). Slope factors or reference doses for bromodichloromethane, isopropyltoluene and tert-butyl alcohol (TBA) were not available from either OEHHA or USEPA references. Therefore these three constituents that were detected at least one time in soil gas, groundwater or the soil matrix were not quantitatively evaluated in the risk assessment. The omission of three constituents from the risk assessment represents an under-estimation of risk, however, the underestimation more than likely is small given the relative universe of the constituents that were quantitatively assessed.

# 7.3 Toxicity Assessment

Toxicity information for many chemicals is often limited. Consequently, there are varying degrees of uncertainty with the calculated toxicity values. Sources of uncertainty associated with toxicity values include:

- Using dose-response information from effects observed at high doses to predict the adverse health effects that may occur following exposure to the low levels expected from human contact with the agent in the environment.
- Using dose-response information from short-term exposures to predict the effects of long-term exposures.
- Using dose-response information from animal studies to predict effects in humans.
- Using dose-response information from homogeneous animal populations or human populations to predict the effects likely to be observed in the general population consisting of individuals with a wide range of sensitivities.

To compensate for these uncertainties, USEPA typically applies a margin of safety when promulgating human toxicity values. Therefore, use of USEPA toxicity values likely results in an overestimation of potential hazard and risk.

#### 7.4 Risk Characterization

The reasonable maximum exposure scenario risk characterization represents an over-estimation of risk. Site-specific information regarding soil properties, depth below ground at which the COCs were detected and attenuation factors were not used in the equations. The reasonable maximum exposure scenario estimated the risk to the receptors based on the maximum detected concentrations or the UCLs, whichever value was lower, for the 54 constituents quantitatively assessed in this risk assessment.

# 7.5 Summary of Risk Assessment Uncertainties

The analysis of the uncertainties associated with this HRA indicates that the estimated risks and hazards derived from the equations in the PEA Manual (DTSC, 1999), from DTSC's LeadSpread Model and from the DTSC-HERD modified soil gas and groundwater screening models for the reasonable maximum exposure scenario represent an over-estimation of risk. Although as outlined in the sections above, many factors can contribute to the over- or underestimation of risk, in general, a mixture of conservative and upper-bound input values were identified to estimate potential exposures. Compounding conservative and upper-bound input values in the risk assessment process are intended to lead to reasonable, maximum, health-conservative estimates. The actual impacts to human health are most likely less than those estimated in this HRA for the evaluated receptors and pathways.

#### 8.0 REFERENCES

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# **TABLES**

# Carcinogens and Noncarcinogens

CARCINOGENS	NONCARCINOGENS
1,1,2,2-tetrachloroethane	1,1-dichlororethane
1,1-dichloroethane	1,1-dichloroethylene
benzene	1,2,4-trimethylbenzene
chloroform	1,3,5-trimethylbenzene
MTBE	sec-butylbenzene
naphthalene	n-butylbenzene
tetrachloroethylene (PCE)	cis-1,2-dichloroethene
trichloroethylene (TCE)	ethylbenzene
vinyl chloride	isopropylbenzene (cumene)
arsenic	MTBE
beryllium	naphthalene
cadmium	n-propylbenzene
hexavalent chromium	tert-butylbenzene
cobalt	tetrachloroethylene (PCE)
nickel	toluene
	trans-1,2-dichloroethene
	trichloroethylene (TCE)
	vinyl chloride
	o-xylene
	p-xylene
	m-xylene
	antimony and compounds
	arsenic
	barium and compounds
	cadmium
	chromium III
	cobalt
	copper and compounds
	lead
	mercury and compounds
	molybdenum
	selenium
	silver and compounds
	thallium and compounds
	vanadium (fume or dust)
	zinc
	C6-C10
	C10-C18
	C18-C40

# Exposure Point Concentrations, Slope Factors (SFs) and Reference Doses (RfDs)

ANALYTE	EPC	SFo	SFi	RfDo	RfDi
nickel	67.13		9.10E-01		***
selenium	2.0054			5.00E-03	
silver and compounds	0.7619			5.00E-03	
thallium and compounds	6.5567			6.60E-05	
vanadium (fume or dust)	49.887			1.00E-03	
zinc	67.706			3.00E-01	
C6-C10	221.64			6.00E-02	
C10-C18	190.83			6.00E-01	
C18-C40	539.17			6.00E+00	

#### Notes:

EPC = Exposure Point Concentration; either the maximum detected concentration of the analyte in the soil matrix or the UCL, whichever value is less. UCL calculated using proUCL version 3.0. Units are expressed in mg/kg

SFo = Slope Factor, oral route of exposure

SFi = Slope factor, inhalation route of exposure

RfDo = Reference Dose, oral route of exposure

RfDi = Reference Dose, inhalation route of exposure

 $The SFs \ for \ 1,1,2,2-tetrachloroethane, \ 1,1-dichloroethane, \ 1,1-dichloroethane, \ benzene, \ bromodichloromethane, \ chloroform, \ naphthalene, \ benzene, \ bromodichloromethane, \ chloroform, \ naphthalene, \$ 

PCE, TCE, vinyl chloride and arsenic, beryllium, cadmium, hexavalent chromium and nickel are from OEHHA

The RfDs for 1,1-dichloroethylene, ethylbenzene, isopropylbenzene, naphthalene, trans-1,2-dichloroethene, toluene, antimony, barium, trivalent chromium, cyanide, mercury, molybdenum, selenium, silver, thallium, zinc and the RfDo for arsenic are from USEPA, IRIS

The RfDs for 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, cis-1,2-dichloroethene and cobalt are from USEPA, PPRTV

The RfD for copper is from USEPA, HEAST

The RfDs for sec-butylbenzene, n-butylbenzene, n-propylbenzene, tert-butylbenzene and vanadium are from USEPA, NCEA

The RfDs for C6-C10, C10-C18 and C18-C40 are from MADEP

A RfD for lead is not listed as lead was assessed using the DTSC LeadSpread (7) Model

Blank cell indicates a SF or RfD are not available for the analyte, except for lead (see above)

# **Estimated Risks and Hazards**

ANALYTE	RISKo	RISKi	RISKi	RISKi	HAZARDo		HAZARDi	HAZARDi
		soil matrix	soil gas	groundwater		soil matrix	soil gas	groundwater
1,1,2,2-tetrachloroethane	2.20E-08				L			
1,1-dichloroethane	6.16E-10		3.00E-07	1.10E-09			8.70E-04	3.30E-06
1,1-dichloroethylene	1				6.78E-06			<del></del>
1,2,4-trimethylbenzene					3.47E-04			2.10E-03
1,3,5-trimethylbenzene					1.27E-05			5.80E-04
benzene	8.00E-09		1	2.80E-08				7.60E-05
sec-butylbenzene			Ţ		2.46E-04			3.40E-04
bromodichloromethane								
n-butylbenzene				·	1.68E-05			
cis-1,2-dichloroethene			1		3.88E-03		7.90E-01	8.70E-05
chloroform	3.00E-09			* 3,				
cymene (isopropyltoluene)			1					
ethylbenzene			1		2.27E-04		6.10E-04	1.60E-05
isopropylbenzene (cumene)					1.36E-04			2.50E-02
MTBE				2.40E-10				7.30E-07
naphthalene				1.10E-07	7.43E-03			2.50E-03
n-propylbenzene					5.37E-04			3.00E-04
tert-butyl alcohol (TBA)								
tert-butylbenzene					8.31E-06			5.90E-05
tetrachloroethylene (PCE)	1.05E-05		5.10E-05	1.10E-08			5.70E-01	1.20E-04
toluene					1.72E-05		2.80E-03	
trans-1,2-dichloroethene					2.78E-04		2.50E-02	7.10E-05
trichloroethylene (TCE)	4.70E-08		7.20E-06	2.30E-09			1.40E-02	4.40E-06
vinyl chloride	2.04E-07		1.30E-03	7.50E-06	<u>L</u>		3.90E-01	2.30E-03
o-xylene					<u>L</u>		8.50E-03	1.80E-05
p-xylene					<u> </u>		6.70E-03	2.20E-04
m-xylene					<u> </u>		6.30E-03	2.00E-04
antimony					2.58E-02			
arsenic	2.42E-04	1.07E-06			6.65E-01	_		
barium					3.26E-02	3.69E-02		
beryllium		3.90E-08						
cadmium	8.58E-07	1.59E-07		······································				
chromium					3.08E-04			
hexavalent chromium	<u> </u>	4.94E-06						

# **Estimated Risks and Hazards**

ANALYTE	RISKo	RISKi	RISKi	RISKi	HAZARDo	HAZARDi	HAZARDi	HAZARDi
		soil matrix	soil gas	groundwater		soil matrix	soil gas	groundwater
cobalt		9.75E-07			9.40E-03	7.48E-02		
copper					2.12E-02			
lead								
mercury					3.20E-02			
molybdenum					2.82E-03			
nickel		4.55E-07						
selenium					5.65E-03			
silver					2.15E-03			
thallium					1.40E+00			
vanadium (fume or dust)					7.02E-01			
zinc					3.18E-03			
C6-C10					9.46E-02			
C10-C18					8.14E-03			
C18-C40					2.30E-03			
	2.54E-04	7.64E-06	1.36E-03	7.65E-06				

SUM RISK 1.62E-03

Notes: RISKo = Risk estimated for the ingestion and dermal routes of exposure using Equation 2.3 (DTSC, 1999)

RISKi = For metals, risk was estimated for the inhalation route of exposure using Equations 2.8 and 2.4 (DTSC, 1999)

RISKi and HAZARDi = For VOCs, the inhalation route of exposure was caculated using the DTSC-HERD modified Johnson & Ettinger models for VOCs in soil gas and groundwater

HAZARDo = Hazard estimated for the ingestion and dermal routes of exposure using Equation 2.3 (DTSC, 1999)

HAZARDi = For metals, hazard estimated for the inhalation route of exposure using Equations 2.8 and 2.4 (DTSC, 1999)

ABS = 0.10 for VOCs, 0.15 for naphthalene, 0.03 for Arsenic, 0.10 for Cyanide (free) and 0.01 for all other metals (Table 2, DTSC, 1999)

The exposure point concentration (mg/kg) was either the maximum detected concentration or the UCL, whichever value was less

Those analytes that have RfDs and/or RfCs were evaluated as noncarcinogens, i.e., hazard was estimated,

Those analytes that have SFs were evaluated as carcinogens, i.e., risk was estimated.

Those analytes that have both SFs and RfDs were evaluated as carcinogens and noncarcinogens.

Lead was assessed using DTSC's LeadSpread 7 Model. The Model results indicate that lead does not pose an adverse impact to human health; the 99th percentile estimate of blood lead is less than 10 micrograms/decaliters, the threshold.

Blank cell indicates analyte was not detected in the medium, not assessed due to an incomplete exposure pathway, or either a carcinogen or noncarcinogen, only, not both

# LEAD RISK ASSESSMENT SPREADSHEET CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

# JSER'S GUIDE to version 7

INPUT	
MEDIUM	LEVEL
Lead in Air (ug/m³)	0.028
_ead in Soil/Dust (ug/g)	11.1
Lead in Water (ug/l)	15
% Home-grown Produce	
ug/m³)	1.5

	OUTP	UT					
	Percen	tile Estir	nate of I	Blood Pb	(ug/dl)	PRG-99	PRG-95
	50th	90th	95th	98th	99th	(ug/g)	(ug/g)
BLOOD Pb, ADULT	1.1	2.1	2.4	3.0	3.4	2417	3809
BLOOD Pb, CHILD	1.6	3.0	3.5	4.2	4.8	255	435
BLOOD Pb, PICA CHILD	1.7	3.1	3.7	4.4	5.1	128	219
BLOOD Pb, OCCUPATION	<b>1.</b> 1	2.0	2.4	2.9	3,3	3475	5464

EXPOSURE PARAMETERS							
	units	adults	childre				
Days per week	days/wk		,				
Days per week, occupat	ional	5					
Geometric Standard De	viation	1.	6				
Blood lead level of conc	ern (ug/dl	10	0				
Skin area, residential	cm²	5700	2900				
Skin area occupational	cm²	2900					
Şoil adherence	ug/cm <sup>2</sup>	70	200				
Dermal uptake constant	(ug/dl)/(ug/d	0.0001					
Soil ingestion	mg/day	50	100				
Soil ingestion, pica	mg/day		200				
ngestion constant	(ug/dl)/(ug/d	0.04	0.16				
<u> Bioavailability</u>	unitless	0.4	14				
Breathing rate	m³/day	20	6.8				
nhalation constant	(ug/dl)/(ug/d	0.08	0.19				
Water ingestion	l/day	1.4	0.4				
Food ingestion	kg/day	1.9	1.1				
tead in market basket	ug/kg	3.	1				
Lead in home-grown produce	ug/kg	5.	0				

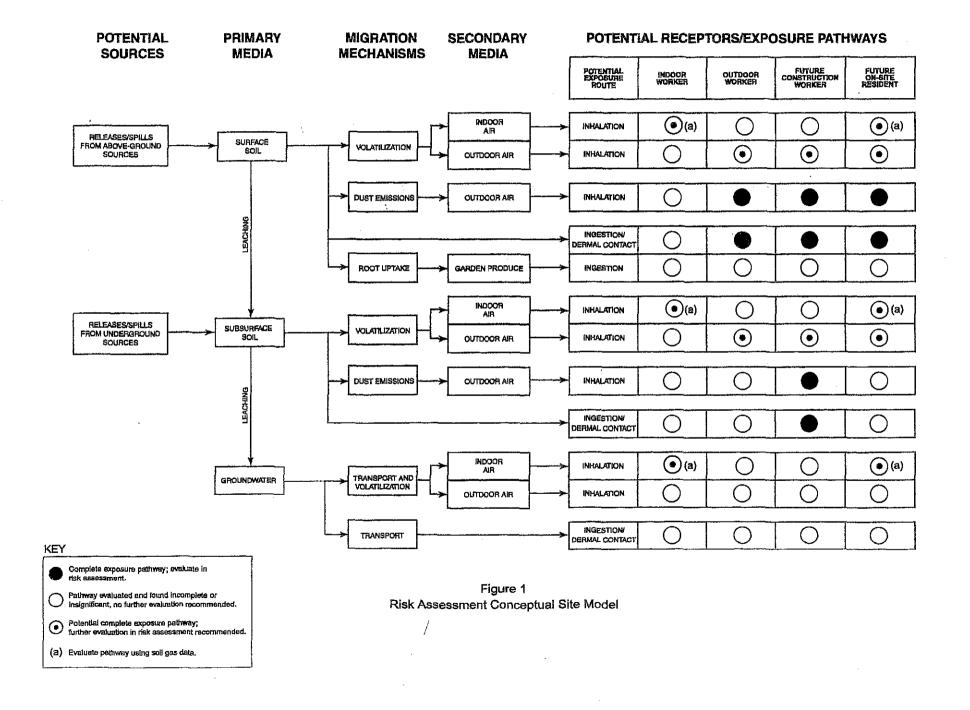
<u></u>	นเมเง	Ladalio	Cillidie
Days per week	days/wk	_ 7	,
Days per week, occupat	ional	5	
Beometric Standard De	viation	1.	6
Blood lead level of conc	ern (ug/dl	10	0
Skin area, residential	cm <sup>2</sup>	5700	2900
Skin area occupational	cm²	2900	
Şoil adherence	ug/cm <sup>2</sup>	70	200
Dermal uptake constant	(ug/dl)/(ug/d	0.0001	
Soil ingestion	mg/day	50	100
Soil ingestion, pica	mg/day		200
ngestion constant	(ug/dl)/(ug/d	0.04	0.16
Bioavailability	unitless	0.44	
Breathing rate	m³/day	20	6.8
nhalation constant	(ug/dl)/(ug/d	0.08	0.19
Water ingestion	l/day	1.4	0.4
Food ingestion	kg/day	1.9	1.1
lead in market basket	ug/kg	3.1	
Lead in home-grown produce	ug/kg	5.	0

Dlick h	iere f	for F	REF	EREľ	<b>ICES</b>
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PATHWAYS									
ADULTS	R	esident	ial	Od	cupation	nal			
	Pathway contribution			Pathw	ay contri	bution			
Pathway	PEF				ug/dl	percent			
Soil Contact	3.8E-5	0.00	0%	1.4E-5	0.00	0%			
Soil Ingestion	8.8E-4	0.01	1%	6.3E-4	0.01	1%			
Inhalation, bkgrnd		0.05	4%		0.03	3%			
Inhalation	2.5 <b>E-</b> 6	0.00	0%	1.8E-6	0.00	0%			
Water Ingestion		0.84	74%		0.84	75%			
Food Ingestion, bkgrnd		0.23	21%		0.23	21%			
Food Ingestion	0.0E+0	0.00	0%			0%			

CHILDREN		typical		with pica			
	Pathw	ay cont	ribution	Pathway contribution			
Pathway	PEF	ug/dl	percent	PEF	ug/dl	percent	
Soil Contact	5.6E-5	0.00	0%		0.00	0%	
Soil Ingestion	7.0E-3	0.08	5%	1.4E-2	0.16	9%	
Inhalation	2.0E-6	0.00	0%		0.00	0%	
Inhalation, bkgrnd		0.04	2%		0.04	2%	
Water Ingestion		0.96	59%		0,96	57%	
Food Ingestion, bkgrnd		0.54	33%		0,54	32%	
Food Ingestion	0.0E+0	0.00	0%		0.00	0%	

# **FIGURES**



# **APPENDIX A OEHHA SFs and RfDs**



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Risk Assessment

Water

New Search:

**Chemical Name** 

1,1,2,2-tetrachloroethane

OR

CAS Number

79345

New Search

Inhalation Unit Risk (µg/cubic meter)<sup>-1</sup> 0.000058

Inhalation Slope Factor (mg/kg-day)\*1 0.2

Oral Slope Factor (mg/kg-day)<sup>-1</sup> 0.27

USEPA Classification C: Possible human carcinogen

IARC Classification 3

Comments "Expedited" cancer potency. . The No Significant Risk Levels based on these

potency slopes are cited separately,

Reference OEHHA, 2002 Technical Support Document

for Describing Available Cancer Potency

Factors

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Toxicity Criteria Database: Cancer Potency

New Search:

**Chemical Name** 

1,1-Dichloroethane

OR

**CAS Number** 

75343

New Search

Inhalation Unit Risk (µg/cubic meter)-1 0.0000016 Inhalation Slope Factor (mg/kg-day)<sup>-1</sup> 0.0057

Oral Slope Factor (mg/kg-day)-1 0.0057

USEPA Classification C: Possible human carcinogen

IARC Classification

Comments "Expedited" cancer potency. . The No Significant Risk Levels based on these potency slopes are cited separately,

ReferenceOEHHA, 2002 Technical Support Document for Describing Available Cancer Potency

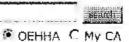
Factors OEHHA, 1992

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New Search: **Chemical Name** Ecotoxicology

Education

1,1-Dichloroethylene

Environmental Indicators

**CAS Number** 

OR.

Fish

75354

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New Search

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Risk Assessment

Water

Health Risk Category: chronic toxicity

California PHG (mg/L): 0.01

Cancer Risk @ PHG:

California MCL (mg/L): 0.006

Cancer Risk @ MCL:

Comments: No cancer risk calculated for

noncarcinogens. For noncarcinogens, an exact numerical public health risk cannot be calculated. The PHG for these chemicals is set at a level which is believed to be without significant public health risk to individuals

exposed to that chemical over a lifetime.

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Risk Assessment

Water

New Search:

**Chemical Name** 

OR

**CAS Number** 

71432

New Search

Inhalation Unit Risk (µg/cubic meter)-1 0.000029

Inhalation Slope Factor (mg/kg-day)<sup>-1</sup> 0.1

Oral Slope Factor (mg/kq-day)-1 0.1

USEPA Classification A: Human carcinogen

IARC Classification 1

Comments

Reference QEHHA, 2002 Technical Support Document for Describing Available Cancer Potency

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New Search:

**Chemical Name** 

Bromodichloromethane

OR.

**CAS Number** 

75274

New Search

Inhalation Unit Risk (µg/cubic meter) 1 0.000037

Inhalation Slope Factor (mg/kg-day)<sup>-1</sup> 0.13

Oral Slope Factor (mg/kg-day)<sup>-1</sup> 0.13

USEPA Classification B2 IARC Classification -

Comments

ReferenceUS EPA, IRIS; NTP, 1987

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New Search:

**Ecotoxicology** 

**Chemical Name** 

<u>Education</u>

Chloroform

**Environmental** 

OR

**Indicators** 

Fish Multimedia **CAS Number** 

67663

Pesticides

New Search

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Inhalation Unit Risk (µg/cubic meter)<sup>-1</sup> 0.0000053

**Public Information** 

Inhalation Slope Factor (mg/kg-day)<sup>-1</sup> 0.019 Oral Slope Factor (mg/kg-day)-1 0.031

Risk Assessment

USEPA Classification B2

IARC Classification 2B: The agent is possibly carcinogenic to

humans

Water

Comments

ReferenceOEHHA, 2002 Technical Support Document

for Describing Available Cancer Potency

Factors

California Department of Health Services (CDHS) 1990, Health Effects of Chloroform.

Office of Environmental Health Hazard

Assessment, Air Toxicology and Epidemiology

Section, Berkeley, CA

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Water

New Search:

**Chemical Name** 

Naphthalene

OR.

**CAS Number** 

91203

New Search

Inhalation Unit Risk (µg/cubic meter)<sup>-1</sup> 0.000034

Inhalation Slope Factor (mg/kg-day)<sup>-1</sup> 0.12

Oral Slope Factor (mg/kg-day)-1 **USEPA Classification** 

IARC Classification 2B: The agent is possibly carcinogenic to

humans Comments

Reference Air Toxic Hot Spots: Adoption of a Unit Risk Value for Naphthalene

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Toxicity Criteria Database: Cancer Potency

New Search:

**Chemical Name** 

Tetrachloroethylene

OR

**CAS Number** 

127184

New Search

Inhalation Unit Risk (µg/cubic meter)-1 0.0000059

Inhalation Slope Factor (mg/kg-day)<sup>-1</sup> 0.021

Oral Slope Factor (mg/kg-day)<sup>-1</sup> 0.54

**USEPA** Classification

IARC Classification 2B: The agent is possibly carcinogenic to

humans

Comments A change was made on 9/13/02, see history

log for an explanation. Number based on

calculation from PHG

ReferenceOEHHA, 2002 Technical Support Document

for Describing Available Cancer Potency

Factors

Public Health Goal for Tetrachloroethylene in

Drinking Water, Aug. 2001

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Toxicity Criteria Database: Cancer Potency

New Search:

**Chemical Name** 

Trichloroethylene

OR

**CAS Number** 

79016

New Search

Inhalation Unit Risk (µg/cubic meter)<sup>-1</sup> 0.000002

Inhalation Slope Factor (mg/kg-day)<sup>-1</sup> 0.007

Oral Slope Factor (mg/kg-day)<sup>-1</sup> 0.013

USEPA Classification

IARC Classification 2A: The agent is probably carcinogenic to

humans

Comments A change was made on 9/24/03, see history

log for an explanation.

Reference OEHHA, 2002 Technical Support Document

for Describing Available Cancer Potency

Factors

OEHHA, 1999 Public Health Goal for

Trichloroethylene in Drinking Water

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New Search:

Ecotoxicology

**Chemical Name** 

Education

Vinyl chloride

Environmental

OR

**Indicators** 

Fish

**CAS Number** 

75014

Multimedia **Pesticides** 

New Search

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Inhalation Unit Risk (µg/cubic meter)-1 0.000078

**Public Information** 

Inhalation Slope Factor (mg/kg-day)<sup>-1</sup> 0.27

Risk Assessment

Oral Slope Factor (mg/kg-day)<sup>-1</sup> 0.27 USEPA Classification -

Water

IARC Classification 1 Comments

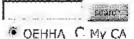
Reference OEHHA, 2002 Technical Support Document for Describing Available Cancer Potency <u>Factors</u>

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Health Goals (PHGs)

New Search:

**Chemical Name** 

ANTIMONY

OR

CAS Number

7440360

New Search

Health Risk Category: chronic toxicity

California PHG (mg/L): 0.02

Cancer Risk @ PHG: California MCL (mg/L): 0.006

Cancer Risk @ MCL:

Comments: No cancer risk calculated for

noncarcinogens. For noncarcinogens, an exact

numerical public health risk cannot be calculated. The PHG for these chemicals is set at a level which is believed to be without significant public health risk to individuals exposed to that chemical over a lifetime.

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Toxicity Criteria Database: Cancer Petency

New Search:

**Chemical Name** 

Arsenic

OR.

**CAS Number** 

7440382

New Search

Inhalation Unit Risk (µg/cubic meter)<sup>-1</sup> 0.0033 Inhalation Slope Factor (mg/kg-day)<sup>-1</sup> 12

Oral Slope Factor (mg/kg-day)<sup>-1</sup> 9.45

USEPA Classification A: Human carcinogen

IARC Classification 1 Comments

Reference OEHHA, 2002 Technical Support Document

for Describing Available Cancer Potency

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OEHHA, 2004 Public Health Goal for Arsenic

in Drinking Water

Office of Environmental Health Hazard Assessment

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New Search:

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**Chemical Name** 

Education

Barium

**Environmental** 

OR.

**Indicators** 

Fish Multimedia **CAS Number** 

7440393

Pesticides

New Search

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Water

Health Risk Category: noncarcinogen (hypertension)

California PHG (mg/L): 2 Cancer Risk @ PHG: California MCL (mg/L): 1 Cancer Risk @ MCL:

Comments: No cancer risk calculated for

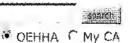
noncarcinogens. For noncarcinogens, an exact numerical public health risk cannot be calculated. The PHG for these chemicals is set at a level which is believed to be without significant public health risk to individuals

exposed to that chemical over a lifetime.

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Toxicity Criteria Database: Cancer Potency

New Search:

**Chemical Name** 

Beryllium

OR

**CAS Number** 

7440417

New Search

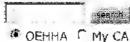
Inhalation Unit Risk (µg/cubic meter)-1 0.0024 Inhalation Slope Factor (mg/kg-day)<sup>-1</sup> 8.4 Oral Slope Factor (mg/kg-day)<sup>-1</sup>

**USEPA Classification** IARC Classification Comments

Reference OEHHA, 2002 Technical Support Document for Describing Available Cancer Potency <u>Factors</u>

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**Toxicity Criteria Database: Cancer Potency** 

New Search:

**Chemical Name** Cadmium

OR

**CAS Number** 

7440439

New Search

Inhalation Unit Risk (µg/cubic meter)-1 0.0042 Inhalation Slope Factor (mg/kg-day)<sup>-1</sup> 15

Oral Slope Factor (mg/kg-day)<sup>-1</sup> 0.38

USEPA Classification B1

IARC Classification 2A: The agent is probably carcinogenic to

humans

Comments

Reference OEHHA, 2002 Technical Support Document

for Describing Available Cancer Potency

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OEHHA, 1999 Public Health Goal for

Cadmium in Drinking Water



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New Search: Chemical Name

Ecotoxicology Education

Chromium, hexavalent (Chromium VI)

Environmental

OR

Indicators

**CAS Number** 

Multimedia

<u>Fish</u>

18540299

**Pesticides** 

New Search

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Inhalation Unit Risk (µg/cubic meter)<sup>-1</sup> 0.15 Inhalation Slope Factor (mg/kg-day)<sup>-1</sup> 510

**Public Information** 

Oral Slope Factor (mg/kg-day)-1

Risk Assessment

USEPA Classification A: Human carcinogen

IARC Classification 1

Water

Comments A change was made on 12/19/01, see history log for an explanation.

Reference OEHHA, 2002 Technical Support Document for Describing Available Cancer Potency **Factors** 

Office of Environmental Health Hazard Assessment

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Values for Chemicals with California Public Health Goals (PHGs)

Toxicity Criteria Database: Chemicals with PHGs

New Search:

**Chemical Name** 

Copper

OR.

**CAS Number** 7440508

New Search

Health Risk Category: acute toxicity

California PHG (mg/L): 0.17 Cancer Risk @ PHG: 0 California MCL (mg/L): 1.3

Cancer Risk @ MCL:

Comments: CA MCL = Action Level. No cancer risk

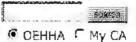
calculated for noncarcinogens.For noncarcinogens, an exact numerical public health risk cannot be calculated. The PHG for these chemicals is set at a level which is believed to be without significant public health risk to individuals exposed to that

chemical over a lifetime.

Search Site Map

**Database Home** 

**OEHHA Home** 



\*

Air

**About OEHHA** 

**Toxicity Criteria Database: Chemicals with PHGs** 

Children's Health

Ecotoxicology

Education

**Environmental** Indicators

Fish

Multimedia

**Pesticides** 

**Proposition 65** 

**Public Information** 

Risk Assessment

Water

Health Risk Categories and Cancer Risk Values for Chemicals with California Public

Health Goals (PHGs)

New Search:

**Chemical Name** 

Cyanide

OR

**CAS Number** 

57125

New Search

Health Risk Category: chronic toxicity

California PHG (mg/L): 0.15 Cancer Risk @ PHG:

California MCL (mg/L): 0.2 Cancer Risk @ MCL:

Comments: CA MCL to be reviewed for possible revision.

No cancer risk calculated for

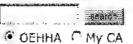
noncarcinogens. For noncarcinogens, an exact numerical public health risk cannot be calculated. The PHG for these chemicals is set at a level which is believed to be without significant public health risk to individuals exposed to that chemical over a lifetime.

Search

Site Map

**Database Home** 

Chronic Reference Exposure Levels (RELs)



Air

**About OEHHA** 

**OEHHA Home** 

Toxicity Criteria Database: Chronic RELs

Children's Health

New Search:

Ecotoxicology

**Chemical Name** 

Education

Mercury (inorganic)

**Environmental** 

OR

**Indicators** 

Fish

**CAS Number** 7439976

Multimedia

**Pesticides** 

New Search

**Proposition 65** 

**Public Information** 

Risk Assessment

Water

Chronic Inhalation REL (µg/m3):0.09 Listed in CAPCOA: Yes US EPA RfC: Yes Target Organ(s): nervous system Human data: Yes

Search Site Map



Datbase Home

**Cancer Potency Information** 

search Search

OEHHA Home

**About OEHHA** 

<u>Air</u>

**Toxicity Criteria Database: Cancer Potency** 

Children's Health

New Search: Chemical Name

Ecotoxicology

Education

Nickel and Nickel compounds

Environmental

**OR** 

Indicators

CAS Number

Multimedia

Fish

7440020

Pesticides

New Search

Proposition 65

Inhalation Unit Risk (µg/cubic meter)<sup>-1</sup> 0.00026 Inhalation Slope Factor (mg/kg-day)<sup>-1</sup> 0.91

Public Information

Oral Slope Factor (mg/kg-day)<sup>-1</sup>

Risk Assessment

USEPA Classification A: Human carcinogen

KISK ASSESSMENT

IARC Classification 1
Comments

Water

ReferenceOEHHA, 2002 Technical Support Document for Describing Available Cancer Potency Factors

Search Site Map



Database Home

**OEHHA Home** 

Air

About OEHHA

Children's Health

Ecotoxicology Education

Environmental Indicators

Fish

<u>Multimedia</u>

Pesticides

Proposition 65

Public Information

**Risk Assessment** 

Water

Health Risk Categories and Cancer Risk Values for Chemicals without California Public Health Goals (PHGs)

G OEHHA C My CA

Toxicity Criteria Database: Chemicals without PHGs

New Search:

**Chemical Name** 

Selenium

OR.

**CAS** Number

7782492

New Search

Health Risk Category chronic toxicity (hair and hail changes, skin lesions, nervous system effects; human data)

U.S. EPA MCLG (mg/L) 0.05 California MCL (mg/L) 0.05

Cancer Risk @ MCL

**Database Home** 

**QEHHA Home** 

Office of Environmental Health Hazard Assessment

Health Risk Categories and Cancer Risk Values for Chemicals with California Public Search

Site Map

OEHHA C My CA

Health Goals (PHGs) Air

**About OEHHA** Toxicity Criteria Database: Chemicals with PHGs

Children's Health New Search:

**Chemical Name** 

Ecotoxicology Education

Thallium

**Environmental** Indicators

**OR** 

Fish

CAS Number

Multimedia Pesticides

7440280

**Proposition 65** 

New Search

Public Information

Risk Assessment

Water

Health Risk Category: chronic toxicity

California PHG (mg/L): 0.0001

Cancer Risk @ PHG:

California MCL (mg/L): 0.002

Cancer Risk @ MCL:

Comments: No cancer risk calculated for

noncarcinogens. For noncarcinogens, an exact

numerical public health risk cannot be calculated. The PHG for these chemicals is set at a level which is believed to be without significant public health risk to individuals exposed to that chemical over a lifetime.

# APPENDIX B DTSC-HERD modified JOHNSON & ETTINGER MODEL SOIL GAS SCREEN

## DATA ENTRY SHEET

SCREEN sion 2.0; 04/			in a finish	2.1		DTSC Vapor Intrusion Guidance
eset to efaults	Chemical CAS No. (numbers only,	Soil Soil gas conc., C <sub>g</sub>	Gas Concentratio	ENTER Soil gas conc., Cq		Interim Final 12/04 (last modified 1/21/05)
	no dashes)	(μg/m <sup>3</sup> )		(ppmv)		Chemical
	75843	9.25⊑402				1,1-Dichloroethane
	ENTER Depth	ENTER	ENTER	ENTER		ENTÉR
MORE +	below grade to bottom of enclosed space floor,	Soil gas sampling depth below grade, L <sub>s</sub>	Average soil temperature, T <sub>s</sub>	Vadose zone SCS soil type (used to estimate soil vapor	ΟÂ	User-defined vadose zone soil vapor permeability, k <sub>v</sub>
	(15 or 200 cm)	(cm)_	(°C)	permeability)		(cm²)
	15	152.4	24	SIC		
MORE +	ENTER Vandose zone SCS scil type Lockup Soil Parameters	ENTER Vadose zone soil dry bulk density, p^ (g/cm²)	ENTER Vadose zone soil total porosity, n <sup>V</sup> (unitless)	ENTER Vadose zone soil water-filled porosity, 8 <sub>w</sub> V (cm³/cm³)		ENTER  Average vapor flow (site into bidg. (Leave blank to calculate)  Cum (L/m)
	ENTER Vandose zone SCS soil type Lockep Soil	ENTER Vadosa Zone soil dry bulk density,	ENTER Vadose zone soil total porosity, n <sup>V</sup>	ENTER Vadose zone soil water-filled perosity.		Average vapor flow rate into bldg. (Leave blank to calculate) C <sub>ent</sub>
	ENTER Vandose zone SCS scil type Lockep Soil Parameters  SIC  ENTER Averaging time for	ENTER Vadose zone soil dry bulk density, p^^ (g/cm²)  1.5  ENTER Averaging time for	ENTER Vadose zone soil total porosity, n <sup>V</sup> (unitless)  0.43  ENTER Exposure	ENTER Vadose zone soil water-filled porosity.  8,,,,,, (cm³/cm³)  0.15  ENTER  Exposure	• 0	Average vapor flow rate into bldg. (Lesve blank to calculate)  (L/m)
MORE	ENTER Vandose zone SCS scilitype Lockup Soil Parameters  SIC  ENTER Averaging	ENTER Vadose zone soil dry bulk density, &^ (g/cm³)  1.5  ENTER Averaging	ENTER Vadose zone soil total porosity, n <sup>V</sup> (unittess)  0.43	ENTER Vadcae zone soil water-filled perosity.  8 <sub>w</sub> V (cm <sup>3</sup> /cm <sup>3</sup> )  0.15	• - 2:	Average vapor flow rate into bldg. (Lesve blank to calculate)  (L/m)

# CHEMICAL PROPERTIES SHEET

Diffusivity in air, D <sub>a</sub> (cm <sup>2</sup> /s)	Diffusivity in water, D <sub>w</sub> (cm <sup>2</sup> /s)	Henry's law constant at reference temperature, H (atm-m <sup>8</sup> /mol)	Henry's law constant reference temperature, T <sub>R</sub> (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T <sub>B</sub> (°K)	Critical temperature, T <sub>C</sub> (°K)	Unit risk factor, URF (µg/m³) <sup>-1</sup>	Reference conc., RfC (mg/m <sup>3</sup> )	Molecular weight, MW (g/mol)_
7.42E-02	1.05E-05	5,61E-03	25	6,895	330.55	523.00	1.6E-06	5.0E-01	98.96

# INTERMEDIATE CALCULATIONS SHEET

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, θ <sub>a</sub> <sup>V</sup> (cm³/cm³)	Vadose zone effective total fluid saturation, S <sub>te</sub> (cm³/cm³)	Vadose zone soil intrinsic permeability, k (cm <sup>2</sup> )	Vadose zone soil relative air permeability, k <sub>rg</sub> (crn <sup>2</sup> )	Vadose zone soil effective vapor permeability, k <sub>r</sub> (crn²)	Floor- wall seam perimeter, X <sub>crask</sub> (cm)	Soil gas conc. (µg/m³)	Bldg. ventilation rate, Q <sub>bulding</sub> (cm <sup>3</sup> /s)
137.4	0.280	0,122	1.52E-09	0,937	1.42E-09	4,000	9.25E+02	3.39E+04
Area of enclosed space below grade, A <sub>B</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, η (unitless)	Crack depth below grade, Z <sub>crack</sub> (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mof)	Henry's law constant at ave. soil temperature, H <sub>TS</sub> (atm-m <sup>3</sup> /mol)	Henry's law constant at ave. soil temperature, H' <sub>TS</sub> (unitless)	Vapor viscosity at ave. soil temperature, μτs (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>eff</sup> v (cm²/s)	Diffusion path length, L <sub>d</sub> (cm)
1.00E+06	5,00E-03	15	7,294	5.38E-03	2.21E-01	1.80E-04	5.79E-03	137.4
Convection path length, L <sub>p</sub> (cm)	Source vapor conc., C <sub>source</sub> (µg/m <sup>3</sup> )	Crack radius, r <sub>crack</sub> (cm)	Average vapor flow rate into bldg., Q <sub>soil</sub> (cm³/s)	Crack effective diffusion coefficient, D <sup>orack</sup> (cm <sup>2</sup> /s)	Area of crack, A <sub>crack</sub> (cm <sup>2</sup> )	Exponent of equivalent foundation Peclet number, exp(Pe <sup>f</sup> ) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., C <sub>building</sub> (µg/m³)
15	9.25E+02	1.25	8.33E+01	5.79E-03	5.00E+03	3.20E+12	8.26E-04	7.64E-01

Unit risk Reference factor, conc., URF RfC (μg/m³)<sup>-1</sup> (mg/m³)

.....

# RESULTS SHEET

# INCREMENTAL RISK CALCULATIONS:

incremental	Hazard
risk from	quotient
vapor	from vapor
intrusion to	întrusion to
indoor air,	indoor air,
carcinogen	noncarcinogen
(unitless)	(unitless)
	·
3.0E-07	8.7E-04

MESSAGE SUMMARY BELOW:

## DATA ENTRY SHEET

						_3.0
EN	•					OTSC
.0; 04/		Soil (	Gas Concentratio	n Data		apor Intrusion Guidano Merim Final 12/04
	ENTER	ENTER	ada Obliberii atio	ENTER		ast modified 1/21/05)
,		Soil		Soll	· ·	,
, ]	Chemical	gas	OR	gas		
	CAS No.	conc.,		conc.,		
	(numbers only,	C <sub>g</sub>		C <sub>g</sub>		
	no dashes)	(µg/m³)		(ppmv)		Chemical
[	156592	5.87E+04				is-1,2-Dichloroethylen
. (1						
	ENTER Depth	ENTER	ENTER	ENTER		ENTER
ORE	below grade	Soil gas		Vadose zone		User-defined
₩	to bottom	sampling	Average	\$C\$		vadose zone
	of enclosed	depth	lios	soll type		soil Vapot
	space floor,	below grade,	temperature,	(used to estimate	OR	permaability,
	L <sub>F</sub>	L	Ts	soil vapor		k <sub>v</sub>
_	(15 or 200 cm)	(em)	(°C)	permeability)	_	(cm²)
ı	15	152.4	24	SIC	Г	* 1-
ORE ]	ENTER Vandose zone	ENTER. Vadose zone	ENTER Vadose zone	ENTER		ENTER Average vapor
<u>;                                    </u>	SCS soil type Leokup Soll Parameters	soil dry bulk deneity, p <sub>6</sub> ^ (g/cm <sup>2</sup> )	soil total porosity, n <sup>y</sup> (unitless)	Vadose zone soil water-filled porosity, $\theta_{w}^{V}$ (cm²/cm²)	ما) _	Filow rate into bldg.  Flow rate into bldg.  Flow rate into bldg.  Flow rate into bldg.  Cleot  (L/m)
	soil type	soil dry bulk density, ρ <sub>ε</sub> Λ	porosity, n <sup>V</sup>	soil water-filled porcelty, θ <sub>w</sub> Υ	(L	flow rate into bidg. wave blank to calculate) C <sub>eot</sub>
	soil type Leokup Soll Parameters	soil dry bulk deneity, p <sub>6</sub> ^ (g/cm <sup>3</sup> )  1.5  ENTER Averaging	parasity, n <sup>y</sup> (unitless)	soil water-filled poroelty, 9 <sub>w</sub> * (cm²/cm²)	- [	flow rate into bidg.  New blank to calculate)  Cont (Um)
U (	soil type Lectup Soil Parameters SIC ENTER	soil dry bulk density, p <sub>5</sub> ^ (g/cm³)  1.5  ENTER Averaging time for	porceity, n <sup>V</sup> (unitless)	soil water-filled poroetty, $\theta_{w}^{Y}$ (cm²/cm²)	ں) - [	flow rate into bidg.  New blank to calculate)  Cont (L/m)
U (	soil type Lectup Soll Parameters SIC ENTER Averaging	soil dry bulk deneity, p <sub>6</sub> ^ (g/cm <sup>3</sup> )  1.5  ENTER Averaging	porceity, n <sup>V</sup> (unitless)  0.43  ENTER	soil water-filled percetty, $\theta_{w}^{V}$ (cm²/cm²)  0.15  ENTER  Exposure frequency,	- [	flow rate into bidg.  New blank to calculate)  Cont (Um)
U (	soil type Lectup Soll Parameters  SIC  ENTER Averaging time for	soil dry bulk density, p <sub>5</sub> ^ (g/cm³)  1.5  ENTER Averaging time for	porosity, n <sup>V</sup> (unitless) 0.43  ENTER Exposure	soil water-filled porcetty, $\theta_{w}^{V}$ (cm²/cm²)  0.15	(L) - [	flow rate into bidg.  New blank to calculate)  Cont (Um)
U (	soil type Lookup Soll Parameters  SIC  ENTER Averaging time for carcinogens,	soil dry bulk density, Pb <sup>A</sup> (g/cm³)  1.5  ENTER Averaging time for noncarcinogens,	porosity, n <sup>V</sup> (unitless) 0.43  ENTER Exposure duration,	soil water-filled percetty, $\theta_{w}^{V}$ (cm²/cm²)  0.15  ENTER  Exposure frequency,	ں) - [	flow rate into bidg.  New blank to calculate)  Cont (L/m)
U (	soil type Lookup Soll Parameters  SIC  ENTER Averaging time for carcinogens, ATc	soil dry bulk density, pb^ (g/cm³)  1.5  ENTER Averaging time for noncercinogens, AT <sub>NC</sub>	porosity, n <sup>y</sup> (unitless) 0.43  ENTER Exposure duration, ED	soil water-filled poroeity, 9,* (cm²/cm²)  0.15  ENTER  Exposure frequency, EF	(L	flow rate into bidg.  •awe blank to calculate)  •Quest (L/m)

# CHEMICAL PROPERTIES SHEET

Diffusivity in air, D <sub>a</sub> (cm <sup>2</sup> /s)	Diffusivity in water, D <sub>w</sub> (cm²/s)	Henry's law constant at reference temperature, H (atm-m <sup>3</sup> /mol)	Henry's law constant reference temperature, T <sub>R</sub> (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T <sub>B</sub>	Critical temperature, T <sub>C</sub>	Unit risk factor, URF (µg/m³)·¹	Reference conc., RfC (mg/m <sup>3</sup> )	Molecular weight, MW (g/mol)
(GII 78)	(4111 78)	(atm-m/mor)	( 0)	(cai/moi)	<u> ( r) </u>	( 1 )	(my/m )	(mg/m/)	(g/moi)
7.36E-02	1.13E-05	4.07E-03	25	7,192	333.65	544.00	0.0E+00	3.5E-02	96.94

# INTERMEDIATE CALCULATIONS SHEET

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, θ <sub>a</sub> <sup>v</sup> (cm³/cm³)	Vadose zone effective total fluid saturation, Sle (cm³/cm³)	Vadose zone soil intrinsic permeability, k (cm²)	Vadose zone soil relative air permeability, k <sub>rg</sub> (cm²)	Vadose zone soil effective vapor permeability, k, (cm²)	Floor- wall searn perimeter, X <sub>crack</sub> (cm)	Soil gas conc. (µg/m³)	Bldg. ventilation rate, Q <sub>building</sub> (cm <sup>3</sup> /s)
137,4	0.280	0.122	1.52E-09	0.937	1,42E-09	4,000	5.87E+04	3.39E+04
Area of enclosed space below grade, A <sub>6</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, η (unitless)	Crack depth below grade, Z <sub>crack</sub> (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H <sub>TS</sub> (atm-m <sup>a</sup> /mol)	Henry's law constant at ave. soil temperature, H'rs (unitless)	Vapor viscosily at ave. soil temperature, µrs (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>eff</sup> v (cm <sup>2</sup> /s)	Diffusion path length, L <sub>d</sub> (cm)
1.00E+06	5.00E-03	15	7,592	3,90E-03	1.60E-01	1.80E-04	5.74E-03	137.4
Convection path length, L <sub>p</sub> (cm)	Source vapor conc., C <sub>source</sub> (µg/m³³	Crack radius, r <sub>orack</sub> (cm)	Average vapor flow rate into bldg., Q <sub>soil</sub> (cm <sup>3</sup> /s)	Crack effective diffusion coetticient, D <sup>orack</sup> (cm <sup>2</sup> /s)	Area of crack, A <sub>orack</sub> (cm²)	Exponent of equivalent foundation Peclet number, exp(Pe <sup>f</sup> ) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., C <sub>busining</sub> (µg/m³)
15	5.87E+04	1.25	8.33E+01	5.74E-03	5.00E+03	4.04E+12	8.21E-04	4.82E+01

Unit
risk Reference
factor, conc.,
URF RfC
(μg/m³)-1 (mg/m³)

NA 3.5E-02

END

DTSC / HERD Last Update: 11/1/03

# RESULTS SHEET

# INCREMENTAL RISK CALCULATIONS:

1
_

MESSAGE SUMMARY BELOW:

MESSAGE: Risk/HQ or risk-based soil concentration is based on a route-to-route extrapolation.

# DATA ENTRY SHEET

sion 2.0; 04/		0.31	00	- Data		Vapor Intrusion Guidance
eset to efaults	Chemical CAS No.	ENTER Soil gás conc.,	Gas Concentratio	ENTER Soil gas conc.,		Interim Final 12/04 (last modified 1/21/05)
	(numbers only, no dashes)	<b>ு</b> (யூ/ரா³)		C <sub>g</sub> (ppmv)		Chemical
	100414	1.28E+03				Ethylbenzene
	ENTER Death	ENTER	ENTER	ENTER		ENTER
MORE. ↓	below grade to bottom of enclosed space floot,	Soll gas sampling depth below grade,	Average soit temperature,	Vadose zone SCS soil type (used to estimate	OR	User-defined vadose zone soll vapor permeability,
	L <sub>F</sub> (15 or 200 cm)	L <sub>s</sub> (cm)	Ts (°C)	soil vapor permeability)		k <sub>ν</sub> (cm²)
	15	152.4	24	SIC		
MORE .	ENTER Vandose zone SCS Soil type Lookup Soil Paremeters	ENTER Vadosa zone soil dry bulk density, \$\rho_b^A\\ (g/cm^s)\$	ENTER Vadose zone suit total porosity, n <sup>V</sup> (unitless)	ENTER Vadose zone soil water-filled porosity, $\theta_w^V$ $(cm^9/cm^3)$		ENTER Average vapor Now rate into bldg. (Leave blank to calculate) $\Omega_{coll}$ (L/m)
	ENTER Vandose zone SCS Soil type Lookep Soil	ENTER Vadose zone soil dry bulk density, p <sub>b</sub> <sup>A</sup>	ENTER Vadose zoné soil total porosity, n <sup>V</sup>	ENTER Vadose zone soil water-filled porosity, e <sub>w</sub> *		Average vapor flow rate into bldg. (Leave blank to cafculate) C <sub>od</sub>
	ENTER Vandose zone SCS soil type Lookup Soil Paramators	ENTER Vadose zone soil dry bulk density, Ph <sup>A</sup> (g/cm <sup>8</sup> )	ENTER Vadose zone soil total porosity, n <sup>V</sup> (unitless)	ENTER Vadose zone soil water-filled porosity, e <sub>w</sub> Y (em³/em³)		Average vapor flow rate into bldg. (Leave blank to cafculate)  C <sub>ed</sub> (L/m)

# CHEMICAL PROPERTIES SHEET

# INTERMEDIATE CALCULATIONS SHEET

Source- building separation, L <sub>3</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_a^{\ V}$ (cm³/cm³)	Vadose zone effective total fluid saturation, S <sub>le</sub> (cm³/cm³)	Vadose zone soil intrinsic permeability, k; (cm²)	Vadose zone soll relative air permeability, k <sub>0</sub> (cm <sup>2</sup> )	Vadose zone soil effective vapor permeability, k, (cm²)	Floor- wall seam perimeter, X <sub>crack</sub> (cm)	Soil gas conc. (µg/m³)	Bidg. ventiliation rate, Q <sub>building</sub> (cm <sup>3</sup> /s)
137.4	0.280	0.122	1.52E-09	0.937	1.42E-09	4,000	1,28E+03	3.39E+04
Area of enclosed space below grade, A <sub>6</sub> (cm <sup>2</sup> )	Crack- to-total area raflo, ग (unitless)	Crack depth below grade, Z <sub>enek</sub> (cm)	Enthalpy of vaporization at aye, soil temperature, $\Delta H_{r,YS}$ (cat/mol)	Henry's law constant at ave. soil temperature, Hrs (atm-m³/mol)	Henry's law constant at ave, soil temperature, H'TS (unitless)	Vapor viscosity at ave. soil temperature,  µтs (y/cm-s)	Vadose zone effective diffusion coefficient, D <sup>eff</sup> v (cm <sup>2</sup> /s)	Diffusion path length, L <sub>d</sub> (cm)
1,00E+06	5.00E-03	15	9,994	7.43E-03	3,05E-01	1_80E-04	5.85E-03	137.4
Convection path length, L <sub>p</sub> (cm)	Source vapor conc., C <sub>200006</sub> (µg/m³)	Crack radius, F <sub>orack</sub> (cm)	Average vapor flow rate into bldg., G <sub>boll</sub> (cm³/s)	Crack effective diffusion coefficient, D <sup>oneck</sup> (cm²/s)	Area of crack, A <sub>crack</sub> (cm²)	Exponent of equivalent foundation Peclet number, exp(Pe <sup>f</sup> ) (unitless)	Infinite source indoor attenuation coefficient,  c (unitless)	Infinite source bldg. conc., C <sub>building</sub> (ug/m³)
15	1.28E+03	1.25	8.33E+01	5.85E-03	5.00E+03	2.36E+12	8.32E-04	1.06E+00

Unit
risk Reference
factor, conc.,
URF RfC
(µg/m³)-1 (mg/m³)

NA 1.0E+00

END

DTSC / HERD Last Update: 11/1/03

# RESULTS SHEET

# INCREMENTAL RISK CALCULATIONS:

Incremental	Hazard
risk from	quotient
vapor	from vapor
intrusion to	intrusion to
indoor air,	indoor air,
carcinogen	noncarcinogen
(unitless)	(unitless)
NA	6.1E-04

MESSAGE SUMMARY BELOW:

END

ethylbenzene 1 of 1

# DATA ENTRY SHEET

ion 2.0; 04/		Soil		DTSC Vapor Intrusion Guidance Interim Final 12/04		
set to faults	CAS No. (numbers only,	ENTER Soil ges conc.,	Gas Concentratio	ENTER Soil gas conc., C <sub>g</sub>		(last modified 1/21/05)
	no dashes)	(µg/m³)		(ppmv)		Chemical
	127184	4,36E+04				Tetrachloroethylene
	ENTER Depth	ENTER	ENTER	ENTER		ENTER
MORE +	below grade to buttom of enclosed space floor,	Soil gas sampling depth below grade,	Average soil temperature,	Vadose zone SCS soll type (used to estimate	OR	User-defined vadose zone soil vapor permeability,
	L <sub>e</sub> (15 or 200 cm)	L <sub>s</sub> (cm)	T <sub>s</sub> (°C)	soil vapor permeability)		k <sub>v</sub> (cm²)
	15	152.4	24	SIC		
MORE +	ENTER Vandose zone SCS soil type Lookup Soil Parameters	ENTER Variose zone soil dry bulk density, ps^ (g/cm³)	ENTER Vadose zone soil total porosity, n  (unitless)	ENTER Vadose zone soil water-filled porosity, $\theta_w^{Y}$ (cm³/cm³)		ENTER Average vapor flow rate into bidg. (Leawe blank to calculate) Q <sub>eot</sub> (Um)
MODE						
MORE ¥	ENTER Averaging	ENTER Averaging	ENTER	ENTER		
	Averaging time for carcinogens,	Averaging time for noncarcinogens,	Exposure duration,	Exposure frequency,		
	Averaging time for	Averaging time for	Exposure	Exposure		

# CHEMICAL PROPERTIES SHEET

Diffusivity in air, D <sub>a</sub> (cm <sup>2</sup> /s)	Diffusivity in water, D <sub>w</sub> (cm <sup>2</sup> /s)	Henry's law constant at reference temperature, H (atm-m <sup>3</sup> /mol)	Henry's law constant reference temperature, T <sub>R</sub> (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T <sub>B</sub> (°K)	Critical temperature, T <sub>C</sub> (°K)	Unit risk factor, URF (µg/m³) <sup>-1</sup>	Reference conc., RfC (mg/m³)	Molecular weight, MW (g/mol)
7.20E-02	8.20E-06	1.84E-02	25	8,288	394.40	620.20	5.9E-06	3.5E-02	165.83

# INTERMEDIATE CALCULATIONS SHEET

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, θ <sub>a</sub> V (cm³/cm³)	Vadose zone effective total fluid saturation, S <sub>te</sub> (cm³/cm³)	Vadose zone soil intrinsic permeability, k; (cm²)	Vadose zone soil relative air permeability, k <sub>rg</sub> (cm²)	Vadose zone soil effective vapor permeability, k, (cm²)	Floor- wall seam perimeter, X <sub>crask</sub> (cm)	Soil gas conc. (µg/m³)	Bidg. ventilation rale, Q <sub>building</sub> (cm <sup>3</sup> /s)
137.4	0,280	0.122	1.52E-09	0.937	1.42E-09	4,000	4.36E+04	3.39E+04
Area of enclosed space below grade, A <sub>6</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, η (unilless)	Crack depth below grade, Z <sub>orack</sub> (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H <sub>TS</sub> (atm-m <sup>3</sup> /mol)	Henry's law constant at ave. soil temperature, H' <sub>TS</sub> (unitless)	Vapor viscosity at ave. soil temperature,  µrs (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>eff</sup> y (cm <sup>2</sup> /s)	Diffusion path length, L <sub>d</sub> (cm)
1.00E+06	5.00E-03	15	9,410	1.74E-02	7,14E-01	1.80E-04	5.62E-03	137.4
Convection path length, Lp (cm)	Source vapor conc., C <sub>source</sub> (µg/m³)	Crack rad <b>ius</b> , r <sub>orack</sub> (cm)	Average vapor flow rate into bldg., Q <sub>soil</sub> (cm <sup>3</sup> /s)	Crack effective diffusion coefficient, D <sup>crack</sup> (cm²/s)	Area of crack, A <sub>crack</sub> (cm²)	Exponent of equivalent foundation Peclet number, exp(Pe <sup>t</sup> ) (unitless)	Infinite source indoor affenuation coefficient, α (unitless)	Infinite source bldg, conc., C <sub>building</sub> (µg/m³)
15	4.36E+04	1,25	8.33E+01	5.62E-03	5.00E+03	7.73E+12	8.09E-04	3.53E+01

Unit
risk Reference
factor, conc.,
URF RfC
(µg/m³)-1 (mg/m³)

5.9E-06 3.5E-02

END

DTSC / HERD Last Update: 11/1/03

# INCREMENTAL RISK CALCULATIONS:

Incremental	Hazard				
risk from	quotient				
vapor	from vapor				
intrusion to	intrusion to				
indoor air,	indoor air,				
carcinogen	noncarcinogen				
(unitless)	(unitless)				
5.1E-05	5.7E-01				

MESSAGE SUMMARY BELOW:

#### DATA ENTRY SHEET SG-SCREEN DTSC A Version 2.0; 04/ Vapor Intrusion Guidance Soil Gas Concentration Data Interim Final 12/04 ENTER ENTER ENTER (last modified 1/21/05) Reset to Soil Sail Defaults Chemical OR gas gas CAS No. conc., conc., (numbers only, Cg $C_g$ no dashes) $(\mu g/m^3)$ (ppmv) Chemical 108883 1.59E+03 Toluene ENTER ENTER ENTER ENTER ENTER Depth MORE below grade Soil gas Vadose zone User-defined + to bottom sampling Average SCS vadose zone of enclosed depth soli soil type social vapor space floor, below grade, temperatura, (used to estimate OR permeability, Ts soft vapor k, (15 or 200 cm) (°C) (cm<sup>2</sup>)(em) permeability) 15 152.4 24 SIC ENTER ENTER ENTER ENTER ENTER MORE Vandose zone Vadose zone Vadose zone Vadose zone Average vapor 4 SCS soll dry soil total flow rate into bidg. soil water-filled soil type bulk density, porosity, perosity, (Leave blank to calculate) nV By Lookup Soil PhA Q<sub>act</sub> **Parameters** (cm3/cm3) (g/cm<sup>3</sup>) (unitless) (L/m) SIC 1.5 0.43 0.15 5 MORE + ENTER ENTER ENTER ENTER Averaging Averaging time for time for Exposure Exposure carcinogens, noncarcinogens. duration, frequency, ATc. ATNO ED EF (yrs) (yrs) (days/yr) (yrs)

25

250

30

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END

70

Diffusivity in air, D <sub>a</sub> (cm²/s)	Diffusivity in water, D <sub>w</sub> (cm²/s)	Henry's law constant at reference temperature, H (atm-m <sup>3</sup> /mol)	Henry's law constant reference temperature, T <sub>R</sub> (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T <sub>B</sub> (°K)	Critical temperature, T <sub>C</sub> (°K)	Unit risk factor, URF (µg/m³) <sup>-1</sup>	Reference conc., RfC (mg/m³)	Molecular weight, MW (g/mol)
		•				•			
8.70E-02	8.60E-06	6.62E-03	25	7,930	383.78	591.79	0.0E+00	3.0E-01	92.14

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_a^V$ (cm³/cm³)	Vadose zone effective total fluid saturation, S <sub>te</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Vadose zone soil intrinsic permeability, k (cm²)	Vadose zone soil relative air permeability, k <sub>rg</sub> (cm²)	Vadose zone soil effective vapor permeability, k, (cm²)	Floor- wall seam perimeter, X <sub>orask</sub> (cm)	Soil gas conc. (µg/m³)	Bidg. ventilation rate, Q <sub>building</sub> (cm³/s)
137.4	0.280	0.122	1.52E-09	0.937	1.42E-09	4,000	1.59E+03	3.39E+04
Area of enclosed space below grade, A <sub>B</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, η (unitless)	Crack depth below grade, Z <sub>erack</sub> (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{\nu,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H <sub>TS</sub> (atm-m <sup>3</sup> /mol)	Henry's law constant at ave. soil temperature, H' <sub>TS</sub> (unitless)	Vapor viscosity at ave. soil temperature, µ <sub>TS</sub> (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>off</sup> v (cm <sup>2</sup> /s)	Diffusion path length, L <sub>d</sub> (cm)
1.00E+06	5.00E-03	15	9,001	6.29E-03	2.58E-01	1.80E-04	6,79E-03	137.4
Convection path length, L <sub>p</sub> (cm)	Source conc., C <sub>source</sub>	Crack radius, r <sub>crack</sub> (crn)	Average vapor flow rate into bldg., Q <sub>soll</sub> (cm <sup>2</sup> /s)	Crack effective diffusion coefficient, D <sup>orack</sup> (cm <sup>2</sup> /s)	Area of crack, A <sub>ensek</sub> (cm²)	Exponent of equivalent foundation Pectet number, exp(Pe <sup>f</sup> ) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., C <sub>building</sub> (µg/m³)
15	1.59E+03	1.25	8.33E+01	6.79E-03	5.00E+03	4.63E+10	9.15 <b>E-0</b> 4	1.45E+00

Unit	
risk	Reference
factor,	conc.,
URF	RfC
(μg/m³) <sup>-1</sup>	(mg/m³)
NA NA	3.0E-01

END

DTSC / HERD Last Update: 11/1/03

# INCREMENTAL RISK CALCULATIONS:

incremental	Hazard
risk from	quotient
vapor	from vapor
intrusion to	intrusion to
indoor air,	indoor air,
carcinogen	noncarcinogen
(unitless)	(unitless)
NA	2.8E-03

MESSAGE SUMMARY BELOW:

END

1 of 1

				D,	ATA ENTRY SHEET
REEN 2.0, 04/		Soil	Gas Concentratio	n Data	DTSC Vapor Intrusion Guidance Interim Final 12/94
t to lits	ENTER Chemical	ENTER Soil	OA OA	ENTER Soil gas	(last modified 1/21/05)
	CAS No.	conc.,		conc.,	
	(numbers only,	Cg		Co	
	no dashes)	(µg/m³)		(pprav)	Chemical
	156605	3.78E+03			trans-1,2-Dichloroethylene
	ENTER Depth	ENTER	ENTER	ENTER	ENTER
MORE	below grade	Soil gas		Vadose zone	User-defined
1	to bollom	sampling	Average	SCS	vadose zone
	of enclosed	depth	soll	soll type	soil vapor
	space floor,	below grade,	temperature,	(used to estimate	OR permeability,
	Le	L,	Ts	soil vapor	k <sub>v</sub>
	(15 or 200 cm)	(cm)	(°C)	permeability)	(cm²)
	15	152,4	24	SIC	
MORE	ENTER Vandose zone SCS soil type Loolup soit Persurelises	ENTER Vedose zone soil dry bulk deneity, ps^ (g/cm²)	ENTER Vadose zone soil total porasity, n (unitless)	ENTER Vadose zone soil water-filled porosity, $\theta_{w}^{V}$ (cm²/cm²)	ENTER.  Average vapor flow rate into bidg. (Leave blank to calculate)  Q <sub>coll</sub> (L/m)
	SIC	1.5	0.43	0.15	5
MORE ↓	ENTER Averaging time for	ENTER Averaging time for	<b>ENTER</b> Exposure	ENTER Exposure	
	carcinogens,	noncarcinogens,	duration,	frequency,	
	AT <sub>C</sub>	ATNO	ED	EF	
		6	(yrs)	(doughts)	
	(erly)	(yrs)	(915)	(days/yr)	
	(Via)	(yrs)	25	(uays/yr) 250	

Diffusivity in air, D <sub>a</sub> (cm²/s)	Diffusivity in water, D <sub>w</sub> (cm²/s)	Henry's law constant at reference temperature, H (atm-m <sup>2</sup> /mol)	Henry's law constant reference temperature, T <sub>R</sub> (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{V,b}$ (cal/mol)	Normal boiling point, T <sub>B</sub> (°K)	Critical temperature, T <sub>C</sub> (°K)	Unit risk factor, URF (µg/m³) <sup>-1</sup>	Reference conc., RfC (mg/m³)	Molecular weight, MW (g/mol)
7.07E-02	1.19E-05	9.36E-03	25	6,717	320.85	516,50	0.0E+00	7.0E-02	96,94

Source- building separation, L <sub>T</sub> (crn)	Vadose zone soil air-filled porosity, θ <sub>a</sub> <sup>V</sup> (cm³/cm³)	Vadose zone effective total fluid saturation, S <sub>te</sub> (cm³/cm³)	Vadose zone soil intrinsic permeability, k; (cm²)	Vadose zone soil relative air permeability, k <sub>g</sub> (cm²)	Vadose zone soil effective vapor permeability, k <sub>v</sub> (cm <sup>2</sup> )	Floor- wall seam perimeter, X <sub>orack</sub> (cm)	Soil gas conc. (µg/m³)	Bidg. ventilation rate, Q <sub>building</sub> (cm <sup>3</sup> /s)
(Citi)	(our rom )	(OIII 7 OIII )	(0111)	(011)	(om )	(OIII)	(page 111)	(6.11.70)
137.4	0.280	0.122	1.52E-09	0.937	1.42E-09	4,000	3.78E+03	3.39E+04
Area of enclosed space below grade, A <sub>B</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, η (unitiess)	Crack depth below grade, Z <sub>crack</sub> (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H <sub>TB</sub> (atm-m <sup>3</sup> /mol)	Henry's law constant at ave. soil temperature, H' <sub>TS</sub> (unitless)	Vapor viscosity at ave. soil temperature, μτs (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>eff</sup> v (cm <sup>2</sup> /s)	Diffusion path length, L <sub>d</sub> (cm)
1.005.06	5.00E-03	15	6,986	8.99E-03	3.69E-01	1.80E-04	5.51E-03	137.4
Convection path length, Lp (cm)	Source vapor conc., Csource (µg/m³)	Crack radius, r <sub>orack</sub> (cm)	Average vapor flow rate into bldg., Q <sub>soil</sub> (cm <sup>3</sup> /s)	Crack effective diffusion coefficient, Dorack (cm²/s)	Area of crack,  A <sub>crack</sub> (cm <sup>2</sup> )	Exponent of equivalent foundation Peclet number, exp(Pe <sup>f</sup> ) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., C <sub>building</sub> (µg/m³)
15	3.78E+03	1.25	8.33E+01	5.51E-03	5.00E+03	1.33E+13	7.99E-04	3.03E+00

Reference
conc.,
RfC
(mg/m³)
7.0E-02

# INCREMENTAL RISK CALCULATIONS:

Incremental risk from	Hazard quotient
vapor	from vapor
intrusion to	intrusion to
indoor air,	indoor air,
carcinogen	noncarcinogen
(unitless)	(unitfess)
NA NA	2.5E-02

MESSAGE SUMMARY BELOW:

MESSAGE: Risk/HQ or risk-based soil concentration is based on a route-to-route extrapolation.

sion 2.0; 04/		Soil	Gas Concentratio	n Data		DTSC Vapor Intrusion Guidance Interim Final 12/04
eset to efaults	ENTER Chemical CAS No. (numbers only,	ENTER Soil ges conc., Cq	OR	ENTER Soil gas conc., Co		(last modified 1/21/05)
	no dashes)	(jug/m <sup>3</sup> )		(ppmv)		Chemical
	79016	1.72E+04				Trichloroethylene
	ENTER Depth	ENTER	ENTER	ENTER		ENTER
MORE.	below grade to bottom of enclosed space floor, L <sub>F</sub>	Soil gas sampling depth below grade, L <sub>s</sub>	Average soil temperature, T <sub>s</sub>	Vadose zone SCS soil type (used to estimate soll vapor	OR	User-defined vadose zone soil vapor permeability, k,
	(15 or 200 cm)	(cm)	(°C)	permeability)		(cm²)
	15	152.4	24	SIC		
MORE	ENTER Vandose zone SCS soil type Looke Soil	ENTER Vadose zone soll dry bulk density, $\rho_b^{\Lambda}$	ENTER Vadose zone soil total porosity, n <sup>V</sup>	ENTER Vedose zone soil water-filled porosity,		ENTER Average vapor flow rate lato bidg. (Leave blank to calculate) O <sub>roll</sub>
	Parameters	(g/cm <sup>3</sup> )	(unitless)	(cm³/cm³)		(L/m)
			(unitless) 0.43			
MORE _	Parameters	(g/cm <sup>3</sup> )		(cm³/cm³)		(L/m)

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END

trichloroethylene (TCE) 8/20/2006 3:18 PM

	Diffusivity in water, D <sub>w</sub> (cm <sup>2</sup> /s)	Henry's law constant at reference temperature, H (atm-m <sup>3</sup> /mol)	Henry's law constant reference temperature, T <sub>R</sub> (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T <sub>B</sub> (°K)	Critical temperature, T <sub>C</sub> (°K)	Unit risk factor, URF (µg/m³) <sup>-1</sup>	Reference conc., RfC (mg/m³)	Molecular weight, MW (g/mol)
7.90E-02	9.10E-06	1.03E-02	25	7,505	360.36	544.20	2.0E-06	6.0E-01	131.39

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_a^V$ (cm³/cm³)	Vadose zone effective total fluid saturation, S <sub>te</sub> (cm³/cm³)	Vadose zone soil intrinsic permeability, ki (cm²)	Vadose zone soil relative air permeability, k <sub>rg</sub> (cm²)	Vadose zone soil effective vapor permeability, k, (cm²)	Floor- wall seam perimeter, X <sub>crack</sub> (cm)	Soil gas conc. (µg/m³)	Btdg. ventilation rate, Q <sub>bulding</sub> (cm <sup>3</sup> /s)
137.4	0.280	0.122	1.52E-09	0.937	1.42E-09	4,000	1.72E+04	3.39E+04
Area of enclosed space below grade,  A <sub>B</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, η (unitless)	Crack depth below grade, Z <sub>crack</sub> (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H <sub>TS</sub> (atm-m <sup>3</sup> /mol)	Henry's law constant at ave. soil temperature, H'Ts (unitless)	Vapor viscosily at ave. soil temperature,  µrs (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>eff</sup> v (cm <sup>2</sup> /s)	Diffusion path length, L <sub>d</sub> (cm)
1.00E+06	5.00E-03	15	8,382	9.80E-03	4.02E-01	1.80E-04	6.16E-03	137.4
Convection path length, L <sub>p</sub> (cm)	Source vapor conc., C <sub>source</sub> (µg/m³)	Crack radius, r <sub>orack</sub> (cm)	Average vapor flow rate into bldg., Q <sub>soil</sub> (cm <sup>3</sup> /s)	Crack effective diffusion coefficient, D <sup>crack</sup> (cm <sup>2</sup> /s)	Area of crack, A <sub>creck</sub> (cm²)	Exponent of equivalent foundation Peclet number, exp(Pe <sup>f</sup> ) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bidg. conc., C <sub>building</sub> (ug/m³)
15	1.72E+04	1.25	8.33E+01	6.16E-03	5.00E+03	5.57E+11	8.60E-04	1.48E+01

Unit
risk Reference
factor, conc.,
URF RfC
(µg/m³)-1 (mg/m³)

2.0E-06 6.0E-01

END

DTSC / HERD Last Update: 11/1/03

# INCREMENTAL RISK CALCULATIONS:

Hazard
quotient
from vapor
intrusion to
indoor air.
noncarcinogen
(unitless)
1.4E-02

MESSAGE SUMMARY BELOW:

#### SG-SCREEN DTSC PA Version 2.0; 04/ Vapor Intrusion Guidance Soil Gas Concentration Data Interim Final 12/04 ENTER ENTER ENTER (last modified 1/21/05) Reset to Spil Soil Defaults OR Chemical asg gas CAS No. conc., conc., (numbers only, $C_{o}$ $C_g$ no dashes) (µg/m³) (ppmv) Chemical 75014 6.58E+04 Vinyl chloride (chloroethene) **ENTER** ENTER ENTER ENTER ENTER Depth MORE below grade Soil gas Vadose zone User-defined 4 to bottom sampling Average SCS vadose zone of enclosed depth lioe soil type soil vapor space floor, below grade, temperature, (used to estimate OF permeability, soll vapor $L_{F}$ Lu $T_{s}$ K. (°C) (cm²) (15 or 200 cm) (cm) permeability) 15 152.4 24 SIC ENTER ENTER **ENTER** ENTER ENTER MORE Vandose zone Vadose zone Vadose zone Average vapor Vadose zone soil total 4 SCS soil water-filled flow rate into bidg. soil dry soil type bulk density, porosity, porosity, (Leave blank to calculate) $\theta_w^V$ nΥ Lookup Soil $\rho_b^A$ Cl<sub>sol</sub> Parameters (cm³/cm³) (g/cm3) (unitless) (Um) SIC 1.5 0.43 0.15 5 MORE + ENTER ENTER ENTER ENTER Averaging Averaging Exposure Exposure time for time for carcinogens, noncarcinogens, duration, frequency, ED EF AT<sub>c</sub> AT<sub>NG</sub> (yrs) (yrs) (yts) (days/yr) 70 30 25 250

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Diffusivity in air, D <sub>a</sub> (cm²/s)	Diffusivity in water, D <sub>w</sub> (cm <sup>2</sup> /s)	Henry's law constant at reference temperature, H (atm-m³/mol)	Henry's law constant reference temperature, T <sub>R</sub> (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T <sub>8</sub> (°K)	Critical temperature, T <sub>C</sub> (°K)	Unit risk factor, URF (µg/m³) <sup>-1</sup>	Reference conc., RfC (mg/m³)	Molecular weight, MW (g/mol)
1.06E-01	1.23E-05	2.69E-02	<b>2</b> 5	5,250	259.25	432.00	7.8E-05	1.0E-01	62.50

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_a^V$ (cm³/cm³)	Vadose zone effective total fluid saturation, Sie (cm³/cm³)	Vadose zone soil intrinsic permeability, k; (cm²)	Vadose zone soil relative air permeability, k <sub>rg</sub> (cm²)	Vadose zone soil effective vapor permeability, k <sub>v</sub> (cm <sup>2</sup> )	Floor- wall seam perimeter, X <sub>orack</sub> (cm)	Soil gas conc. (µg/m³)	Bldg. ventilation rate, Q <sub>building</sub> (cm³/s)
137.4	0.280	0,122	1.52E-09	0,937	1.42E-09	4,000	6.58E+04	3.39E+04
Area of enclosed space below grade, A <sub>B</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, ग (unitless)	Crack depth below grade, Z <sub>crack</sub> (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. soil temperature, H <sub>TS</sub> (atm-m <sup>3</sup> /mol)	Henry's law constant at ave. soil temperature, H' <sub>TS</sub> (unitless)	Vapor viscosity at ave. soil temperature, µrs (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>eff</sup> v (cm <sup>2</sup> /s)	Diffusion path length, L <sub>d</sub> (cm)
1,00E+06	5.00E-03	<b>1</b> 5	4,840	2.62E-02	1.07E+00	1.80E-04	8.27E-03	137.4
Convection path length, L <sub>p</sub> (cm)	Source vapor conc., C <sub>source</sub> (µg/m³)	Crack radius, r <sub>orack</sub> (cm)	Average vapor flow rate into bldg., $\Omega_{\rm soil}$ (cm $^3$ /s)	Crack effective diffusion coefficient, D <sup>orack</sup> (cm <sup>2</sup> /s)	Area of crack, A <sub>crack</sub> (cm <sup>2</sup> )	Exponent of equivalent foundation Peclet number, exp(Pe <sup>f</sup> ) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg, conc., C <sub>building</sub> (µg/m³)
15	6.58E+04	1.25	8.33E+01	8.27E-03	5.00E+03	5.68E+08	1.03E-03	6.78E+01

Unit risk factor.	Reference
URF	RfC
(μg/m³) <sup>-1</sup>	(mg/m³)
7.8E-05	1.0E-01
END	j

DTSC / HERD Last Update: 11/1/03

# INCREMENTAL RISK CALCULATIONS:

Incremental	Hazard				
risk from	quotient				
vapor	from vapor				
intrusion to	intrusion to				
indoor air,	indoor air,				
carcinogen	noncarcinogen				
(unitless)	(unitless)				

MESSAGE SUMMARY BELOW:

END

vinyl chloride 1 of 1

ion 2.0; 04/		Soil	Gas Concentratio	n Data	DTSC Vapor Intrusion Guidance Interim Final 12/04
eset to Maults	ENTER Chemical	ENTER Soîl gas	OR	ENTER Soil ges	(last modified 1/21/05)
	CAS No.	conc.,		conc.,	
	(numbers only,	C <sub>g</sub>		C <sub>g</sub>	
	ne dashes)	(µg/m³)		(ppmv)	Chemical
	106423	1.40E+03			p-Xylene
	ENTER Depth	ENTER	ENTER	ENTER	ENTER
MORE	below grade	Soil gas		Vadose zone	User-defined
4	to bottom	sampling	Average	SCS	vadose zone
	of enclosed	depth	spil	soil type	soil Vapor
	space floor,	below grade,	temperalure,	(used to estimate	OR permeability,
	Ļ	Ls	T <sub>s</sub>	soil vapor	K <sub>v</sub>
	(15 or 200 cm)	(cm)	(°C)	permeability)	(cm²)
	15	152.4	24	SIC	
MORE U	ENTER Vandose zone SCS Soil type Lookup Soil Parameters	ENTER Vadose zone soil dry bulk density, Pt- (nems)	ENTER Vadose zone soli total porosity, n <sup>V</sup>	ENTER Vadose zone soil water-filled porosity,  9,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ENTER Average vapor flow rate into bidg. (Leave blank to calculate) Qual (1 (m)
	Vandose zone SCS soil type Lookup Soil	Vadose zone soil dry bulk density,	Vadose zone soll total porosity,	Vadose zone soil water-filled porosity,	Average vapor flow rate into bidg. (Leave blank to calculate)
	Vandose zone SCS soil type Lookup Soil	Vadose zone soil dry bulk density, ρ <sub>6</sub> ^	Vadose zone soli total porosity, n <sup>V</sup>	Vadose zone soll water-filled porosity, $\theta_{u}^{V}$	Average vapor flow rate into bidg. (Leave blank to calculate) Q <sub>eol</sub>
	Vandose zone SCS soil type Lockup Soil Parameters	Vadose zone soil dry bulk density, Ps^ (g/cm²)	Vadose zone soli total porosity, n <sup>v</sup> (unitless)	Vadose zone soil water-filled porosity, turn (cm²/cm²)	Average vapor flow rate into bidg. (Leave blank to calculate) Q <sub>col</sub> (L/m)
MORE	Vandose zone SCS soil type Lookup Soil Parameters SIC  ENTER Averaging time for	Vadose zone soll dry bulk density,  pb^ (g/cm³)  1.5  ENTER Averaging time for	Vadose zone soli total porosity, n <sup>V</sup> (unitless)  0.43  ENTER Exposure	Vadose zone soil water-filled porosity, the variable of the confloarity  (cmf/cmf')  0.15  ENTER  Exposure	Average vapor flow rate into bidg. (Leave blank to calculate) Q <sub>col</sub> (L/m)
MORE	Vandose zone SCS soil type Lockup Soil Parameters SIC  ENTER Averaging time for carcinogens,	Vadose zone soil dry butk density, \$\rho_b^\times\$ (g/cm^3)  1.5  ENTER Averaging time for noncardinogens,	Vadose zone soli total porosity, n  (unitless)  0.43  ENTER  Exposure duration,	Vadose zone soil water-filled porosity,  \$\theta_{\pu}^{\pu}\$  (cm^2/cm^2)  0.15  ENTER  Exposure frequency,	Average vapor flow rate into bidg. (Leave blank to calculate) Q <sub>col</sub> (L/m)
MORE	Vandose zone SCS soil type Lookup Soil Parameters SIC  ENTER Averaging time for	Vadose zone soll dry bulk density,  pb^ (g/cm³)  1.5  ENTER Averaging time for	Vadose zone soli total porosity, n <sup>V</sup> (unitless)  0.43  ENTER Exposure	Vadose zone soil water-filled porosity, the variable of the confloarity  (cmf/cmf')  0.15  ENTER  Exposure	Average vapor flow rate into bidg. (Leave blank to calculate) Q <sub>col</sub> (L/m)

Diffusivity in air, D <sub>a</sub> (cm <sup>2</sup> /s)	Diffusivity in water, D <sub>w</sub> (cm <sup>2</sup> /s)	Henry's law constant at reference temperature, H (atm-m <sup>3</sup> /mol)	Henry's law constant reference temperature, T <sub>R</sub>	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T <sub>B</sub> (°K)	Critical temperature, T <sub>C</sub> (°K)	Unit risk factor, URF (µg/m³) <sup>-1</sup>	Reference conc., RfC (mg/m³)	Molecular weight, MW (g/mol)
7.69E-02	8.44E-06	7.64E-03	25	8,525	411.52	616.20	0.0E+00	1.0E-01	106.17

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, θ <sub>a</sub> <sup>V</sup> (cm³/cm³)	Vadose zone effective total fluid saturation, Ste (cm³/cm³)	Vadose zone soil intrinsic permeability, ki (cm²)	Vadose zone soil relative air permeability, $k_{rg}$ $(cm^2)$	Vadose zone soil effective vapor permeability, k, (cm²)	Floor- wall seam perimeter, X <sub>crack</sub> (cm)	Soil gas conc. (µg/m³)	Bldg. ventilation rate, Q <sub>building</sub> (cm <sup>3</sup> /s)
137.4	0.280	0.122	1.52E-09	0.937	1.42E-09	4,000	1.40E+03	3.39E+04
A 6								
Area of enclosed	Crack-	Crack	Enthalpy of	Henry's law	Henry's law	Vapor	Vadose zone	
space	to-total	depth	vaporization at	constant at	constant at	viscosity at	effective	Diffusion
below	area	below	ave. soil	ave, soil	ave, soil	ave. soil	diffusion	path
grade,	ratio,	grade,	temperature,	temperature,	temperature,	temperature,	coefficient,	length,
$A_B$	η	Z <sub>creck</sub>	$\Delta H_{v,TS}$	$H_{TS}$	$H'_{TS}$	$\mu_{TS}$	$\mathbf{D^{eff}_{v}}$	$L_{d}$
(cm²)	(unitless)	(cm)	(cal/mol)	(atm-m³/mol)	(unitless)	(g/cm-s)	(cm²/s)	(cm)
1.00E+06	5.00E-03	15	10,083	7.22E-03	2.96E-01	1.80E-04	6.00E-03	137.4
						Exponent of	Infinite	
	_		Average	Crack		equivalent	source	Infinite
Convection	Source	Cr- ala	vapor	effective	8	foundation	indoor	source
path length,	vapor conc.,	Crack radius,	flow rate into bldg.,	diffusion coefficient,	Area of crack,	Peclet number.	attenuation coetticient.	bldg.
	-	•	• ,	D <sup>erack</sup>	•	exp(Pe <sup>f</sup> )	•	conc.,
<b>L</b> թ Հ.—Տ	C <sub>source</sub>	r <sub>crack</sub>	Q <sub>soil</sub> (cm³/s)	(cm²/s)	A <sub>crack</sub> (cm²)		οτ ( 201 )	C <sub>trailding</sub>
(cm)	(ħᾶ/w <sub>3</sub> )	(cm)	(CIII /S)	(CIII <sup>-</sup> /S)	(cm-)	(unitless)	(unitless)	(π <b>3</b> /m³)
15	1.40E+03	1.25	8.33E+01	6.00E-03	5.00E+03	1.17E+12	8,45E-04	1.18E+00

Unit risk	Reference
factor,	conc.,
URF	RfC
(μg/m³) <sup>-1</sup>	(mg/m³)
NA	1.0E-01

# INCREMENTAL RISK CALCULATIONS:

Incremental	Hazard
risk from	quotient
vapor	from vapor
îmhusion to	intrusion to
indoor air,	indoor air,
carcinogen	noncarcinogen
(unitless)	(unitless)
NA NA	6,7E-03

MESSAGE SUMMARY BELOW:

ion 2.0; 04/		Soil	Gas Concentratio	n Dsta		Vapor Intrusion Guidance Interim Final 12/04
eset to Haults	Chemical CAS No. (numbers only, no dashes)	ENTER Soil gas conc., Cg (µg/m³)	OR	ENTER Soil gas conc., C <sub>g</sub> (ppmv)		(last modified 1/21/05)  Chemical
	106383	1.40E+03				m-Xylene
	ENTER Depth	ENTER	ENTER	ENTER		ENTER
MORE	below grade to bottom of enclosed space floor, L <sub>F</sub> (15 or 200 cm)	Soil gas sampling depth below grade,  L <sub>s</sub> (cm)	Average soil temperature, T <sub>\$</sub>	Vadose zohe SCS soil type (used to estimate soil vapor parmeability)	OR	User-defined vadose zone soil vapor permeability, k <sub>v</sub> (cm²)
	15	152.4	24	SIC		
MORE ¥	ENTER Vandose zone SCS soil type Lookup Soil Parameters	ENTER Vadose zone soll dry bulk density, Ps^ (g/cm³)	ENTER Vadose zone soil total porcesty, n (unitiess)	ENTER Vadose zone soil water-filled porosity,		ENTER Average vapor flow rate into bidg. (Leave blank to calculate)  Q <sub>rel</sub> (Lfm)
	SIC	1.5	0.48	0.15		. 5
MORE ¥	ENTER Averaging time for carcinogens, AT <sub>C</sub> (yrs)	ENTER Averaging time for noncarcinogens, AT <sub>NC</sub> (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)		

Diffusivity in air, D <sub>a</sub>	Diffusivity in water, Dw	Henry's law constant at reference temperature, H	Henry's law constant reference temperature,	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$	Normal boiling point, T <sub>B</sub>	Critical temperature,	Unit risk factor, URF	Reference conc., RfC	Molecular weight, MW
(cm²/s)	(cm²/s)	(atm-m <sup>3</sup> /mol)	(°C)	(cal/mol)	(°K)	(°K)	(μg/m³) <sup>-1</sup>	(mg/m³)	(g/mol)
7.00E-02	7.80E-06	7.32E-03	25	8,523	412.27	617.05	0.0E+00	1.0E-01	106.17

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, θ <sub>2</sub> <sup>V</sup> (cm²/cm³)	Vadose zone effective total fluid saturation, She (cm³/cm³)	Vadose zone soil intrinsic permeability, kq (cm²)	Vadose zone soil relative air permeability, k <sub>rg</sub> (cm²)	Vadose zone soil effective vapor permeability, k <sub>v</sub> (cm²)	Floor- wall seam perimeter. X <sub>crack</sub> (cm)	Soil gas conc. (µg/m³)	Bidg. ventilation rate, Obuiding (cm <sup>3</sup> /s)
137.4	0.280	0.122	1.52E-09	0.937	1.42E-09	4,000	1,40E+03	3,39E÷04
Area of enclosed space below grade, A <sub>8</sub> (cm <sup>2</sup> )	Crack- to-total area ratio. TI (unitless)	Crack depth below grade, Z <sub>crack</sub> (cm)	Enthalpy of vaporization at ave. soil temperature, $\Delta H_{v,TB}$ (cal/mol)	Henry's law constant at ave, soil temperature, H <sub>TB</sub> (atm-m <sup>9</sup> /mol)	Henry's law constant at ave. soil temperature, H'rs (unitless)	Vapor Viscosity at awe, soil temperature, pras (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>eff</sup> v (cm²/s)	Diffusion paß length, L <sub>d</sub> (cm)
1.00E+06	5.00E-03	15	10,090	6.91E-03	2.84E-01	1.80E-04	5,46E-03	137.4
Convection path length, L <sub>p</sub> (cm)	Source vapor conc., C source	Crack radius, r <sub>enek</sub> (cm)	Average vapor flow rate into bldg., Q <sub>soll</sub> (cm <sup>o</sup> /s)	Crack effective diffusion coefficient, D <sup>crack</sup> (cm²/s)	Area of crack, A <sub>ments</sub> (cm²)	Exponent of equivalent foundation Peclet number, exp(Pe <sup>f</sup> ) (unitless)	Infinite source indoor altenuation coefficient, c (unitless)	Infinite source bldg, conc., Coulding (ug/m <sup>3</sup> )
15	1.40E+03	1.25	8.33E+01	5.46E-03	5.00E+03	1.80E÷13	7.94E-04	1.11E+00

Unit risk	Reference
factor, URF	oone., RfC
(µg/m³)-1	(mg/m³)
NA	1.0E-01
END	]

# INCREMENTAL RISK CALCULATIONS:

Incremental	Hazard
risk from vapor	quotient from vapor
intrusion to	intrusion to
indoor air,	indoor air,
carcinogen (unitless)	noncarcinogen (unitless)
(dillioss)	(dillicasi)
NA.	6.3E-03

MESSAGE SUMMARY BELOW:

ion 2.0; 04/		Soil	Gas Concentratio	n Data	Vapor Intrusion Guidano Interim Final 12/04
set to faults	ENTER Chemical CAS No. (numbers only,	ENTER Sail gas conc., C <sub>s</sub>	OR	ENTER Soil gas conc., C <sub>g</sub>	(last modified 1/21/05)
	no dashes)	(µg/m³)	ı	(ppmv)	Chemical
	95476	1.63E+03			o-Xylene
	ENTER . Depth	ENTER	ENTER	ENTER	ENTER
MORE	below grade to bottom	Soil gas sampling	Average	Vadose zone SCS	User-defined vadoše zone
	of enclosed	depth	soil	soil type	soil vapor
	space floor,	below grade,	temperature,	(used to estimate	OR permeability,
	LF	L <sub>3</sub>	Ts	soil vapor	k <sub>v</sub>
	(15 or 200 cm)	(cm)	(°C)	permeability)	(cm <sup>2</sup> )
	15	152.4	24	SIC	
MORE ¥	ENTER Vandose zone SCS soil type Lookup Soil Parameters	ENTER Vadose zone soil dry bulk density,  ph (g/cm³)	ENTER Vadose zone soil total porosity, n <sup>V</sup> (unitless)	ENTER Vadose zone soil water-filled porosity, e,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ÉNTER Average vapor flow rate into bldg. (Leave blank to ca(culate) Q <sub>est</sub> (L/m)
	SIC	1,5	0.43	0.15	5
		ENTED.	ENTER	ENTER	
MORE ↓	ENTER Averaging	ENTER Averaging			
	Averaging time for	Averaging time for	Exposure	Exposure	
	Averaging	Averaging			

Diffusivity in air, D <sub>a</sub> (cm²/s)	Diffusivity in water, D <sub>w</sub> (cm <sup>2</sup> /s)	Henry's law constant at reference temperature, H (atm-m <sup>8</sup> /mol)	Henry's law constant reference temperature, T <sub>R</sub> (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T <sub>B</sub> (°K)	Critical temperature, T <sub>C</sub> (°K)	Unit risk factor, URF (µg/m³)-1	Reference conc., RfC (mg/m³)	Molecular weight, MW (g/mol)
8.70E-02	1.00E-05	5.18E-03	25	8.661	417.60	630.30	0.0E+00	1.0E-01	106.17

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, θ <sub>a</sub> <sup>V</sup> (cm³/cm³)	Vadose zone effective total fluid saturation, S <sub>te</sub> (cm³/cm³)	Vadose zone soil intrinsic permeability, k (cm²)	Vadose zone soi! relative air permeability, k <sub>rg</sub> (cm²)	Vadose zone soil effective vapor permeability, k, (cm²)	Floor- wall searn perimeter, X <sub>crack</sub> (cm)	Soil gas co <b>n</b> c. (µg/m³)	Bldg. ventilation rate, Q <sub>building</sub> (cm³/s)
137.4	0.280	0.122	1.52E-09	0.937	1.42E-09	4,000	1.63E+03	3.39E+04
Area of enclosed space below grade, A <sub>B</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, n (unitless)	Crack depth below grade, Z <sub>crack</sub> (crn)	Enthalpy of vaporization at ave. soil temperature, ΔH <sub>v,TS</sub> (cal/mol)	Henry's law constant at ave. soil temperature, H <sub>TS</sub> (atm-m <sup>3</sup> /mol)	Henry's law constant at ave. soil temperature, H' <sub>TS</sub> (unitless)	Vapor viscosity at ave. soil temperature, μτs (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>off</sup> v (cm²/s)	Diffusion path length, L <sub>d</sub> (cm)
1.00E+06	5.00E-03	15	10,245	4.88E-03	2.00E-01	1.80E-04	6.79E-03	137.4
Convection path length, L <sub>p</sub> (cm)	Source Vapor conc., C <sub>source</sub> (µg/m³)	Crack radius, r <sub>orack</sub> (cm)	Average vapor flow rate into bidg., Q <sub>soil</sub> (cm <sup>3</sup> /s)	Crack effective diffusion coefficient, D <sup>orack</sup> (cm <sup>2</sup> /s)	Area of crack, A <sub>crack</sub> (cm <sup>2</sup> )	Exponent of equivalent foundation Peclet number, exp(Fe <sup>f</sup> ) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., Chalding (µg/m³)
15	1.63E+03	1.25	8.33E+01	6.79E-03	5.00E+03	4,63E+10	9.15E-04	1.49E+00

Unit	
risk	Reference
factor,	conc.,
URF	RfC
(μg/m³) <sup>-1</sup>	(mg/m³)
NA	1.0E-01
	_
END	

DTSC / HERD Last Update: 11/1/03

# INCREMENTAL RISK CALCULATIONS:

Incremental	Hazard
risk from	quotient
vapor	from vapor
in <b>tru</b> sion to	intrusion to
indoor air,	indoor air,
carcinogen	noncarcinogen
(unitless)	(unitless)
NA	8,5E-03

MESSAGE SUMMARY BELOW:

# APPENDIX C DTSC-HERD modified JOHNSON & ETTINGER MODEL Groundwater Screen

GW-SCREEN /ersion 8.0; 04/03 Reset to Defaults		yes Emental risks f	OR ROM ACTUAL GRO	ATION (enter "X" in "YI UNDWATER CONCEN		DTSC Vapor Intrusion G Interim Final 12/0 (last modified 1/21	4
	ENTER Chemical CAS No. (numbers only, no dashes)	YES  ENTER Initial groundwater conc., Cw (ug/L)	X Cr	hemical			
	75343	2.50E+00	1,1-Dio	phloroethane			
MORE 🔱	ENTER Depth below grade to bottom of enclosed space floor, Le (om)	ENTER  Depth below grade to water table, LwT  (om)	SCS soil type directly above water table	ENTER  Average solf/ groundwater temperature,  T <sub>3</sub> (*C)	ENTER Average vapor flow rate into bid (Leave blank to calc Q <sub>tal</sub> (L/m)		ale)
	15-	1127.76	SIC	24	]	5	
MORE +	ENTER Vadose zone SGS soil type (used to estimate soil vapor permeability)	1127.76 CR	ENTER User-defined vandose zone soil vapor permeability, k, (cm²)	ENTER Vadose zone SCS soil type Lockip Soil Parameters	ENTER Vedose zone soil dry bulk density, pb  (g/cm²)	ENTER Vadose zone soil total porosity, n (unitioss)	ENTER Vadose zone soil water-fille porosity, 6, " (cm³/cm²)
	ENTER Vadose zone SGS soil type (used to estimate soil vapor		ENTER User-defined vandose zane soli vaper penneability, k,	ENTER Vadose zone SCS soil type Lockip Soil	Vadose zone soil dry bulk density, Pb <sup>V</sup>	ENTER Vadose zone soil total porosity, n <sup>V</sup>	Vadose zon soil water-fille porosity, $\theta_w^V$
	ENTER Vadose zone SGS soil type (used to estimate soil vapor permeability)		ENTER User-defined vandose zane soli vaper penneability, k,	ENTER Vadose zone SCS soil type Lockup Soil Parameters	Vadose zone soil dty bulk density, Pb <sup>V</sup> (g/cm <sup>3</sup> )	ENTER Vadose zone soil total porosity, n <sup>V</sup> (unitioss)	Vadose zor soil water-fill porosity, $\theta_{\rm w}^{-1}$ (cm³/cm³)
MORE	ENTER Vadose zone SGS soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for carcinogens, TR	ENTER Target hazard quotient for noncarcinogens, THQ	ENTER User-defined vandose zone soil vapor permeability, k, (cm²)  ENTER Averaging time for cardingers, ATo	ENTER Vadose zone SCS soil type Lockip Soil Parameters SIC  ENTER Averaging time for noncarcinogens, ATno	Vedose zone soil dry bulk density, pb (g/cm²)  1.5  ENTER Exposure duration, ED	ENTER Vadose zone soil total porosity, n (unittess)  0.43  ENTER Exposure frequency, EF	Vadose zor soil water-fill porosity, $\theta_{\rm w}^{-1}$ (cm³/cm³)

ABC Diffusivity in air,	Diffusivity in water,	Henry's law constant at reference temperature,	Henry's law constant reference temperature,	Enthalpy of vaporization at the normal boiling point,	Normal boiling point,	Critical temperature,	Organic carbon partition coefficient,	Pure component water solubility,	Unit risk factor,	Reference
$D_a$	$D_{\mathbf{w}}$	H	T <sub>B</sub>	$\Delta H_{v,b}$	T <sub>B</sub>	Tc	K <sub>oc</sub>	s	URF	RfC
(cm <sup>2</sup> /s)	(cm <sup>2</sup> /s)	(atm-m³/mol)	(°C)	(cal/mol)	(°K)	(°K)	(cm³/g)	(mg/L)	(μg/m³) <sup>-1</sup>	(mg/m³)
				·		·				
7.42E-02	1.05E-05	5.61E-03	25	6,895	330.55	523.00	3.16E+01	5.06E+03	1.6E-06	5.0E-01

Source- building separation, L <sub>⊤</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_a^{\ \nu}$ (cm <sup>3</sup> /cm <sup>3</sup> )	Vadose zone effective total fluid saturation, Ste (cm³/cm³)	Vadose zone soil intrinsic permeability, k <sub>i</sub> (cm²)	Vadose zone soil relative air permeability, k <sub>g</sub> (cm²)	Vadose zone soil effective vapor permeability, k, (cm²)	Thickness of capillary zone, L <sub>oz</sub> (cm)	Total porosily in capillary zone, n <sub>oz</sub> (ctn <sup>3</sup> /cm <sup>3</sup> )	Air-filled porosity in capillary zone, <sup>0</sup> a,cz (cm³/cm³)	Water-filled porosity in capillary zone, $\theta_{w,oz}$ (cm³/cm³)	Floor- wall seam perimeter, X <sub>erack</sub> (cm)	<b>x</b>
1112.76	0.280	0.122	1,52E-09	0.937	1,42E-09	192.31	0.481	0.057	0.424	4,000	1
11.12.113				I	I				******		1
Bldg. ventilation rate, Q <sub>building</sub>	Area of enclosed space below grade, A <sub>B</sub>	Crack- to-total area ratio, n	Crack depth below grade, Z <sub>crack</sub>	Enthalpy of vaporization at ave. groundwater temperature, ΔΗ <sub>ν.TS</sub>	Henry's law constant at ave. groundwater ternperature, HTs	Henry's law constant at ave. groundwater temperature, H' <sub>TS</sub>	Vapor viscosity at ave. soil temperature, µ <sub>TS</sub>	Vadose zone effective diffusion coefficient, D <sup>ef</sup> v	Capillary zone effective diffusion coefficient, D <sup>eff</sup> ez	Total overall effective diffusion coefficient, D <sup>eff</sup> T	
(cm <sup>3</sup> /s)	~в (cm²)	(unitless)	(cm)	(cal/mol)	(atm-m³/mol)	(unitless)	(g/cm-s)	(cm²/s)	(cm²/s)	(cm <sup>2</sup> /s)	
(61176)	(4)	(u)hiooo/	(OIII)	(outring)		(dilidos)	(9/0111 0/	(5.1.1.5)	(31172)	(4111.10)	•
3.39E+04	1.00E+06	5.00E-03	15	7,294	5.38E-03	2.21E-01	1.80E-04	5.79E-03	3.53E-05	1.99E-04	
Diffusion path length, L <sub>d</sub>	Convection path length, L <sub>p</sub>	Source vapor conc., C <sub>source</sub>	Crack radius, <sub>r<sub>crack</sub></sub>	Average vapor flow rate into bldg., Q <sub>soil</sub>	Crack effective diffusion coefficient, D <sup>orack</sup>	Area of crack, A <sub>crack</sub>	Exponent of equivalent foundation Peclet number, exp(Pef)	infinite source indoor attenuation coefficient, α	Infinite source bldg. conc., C <sub>building</sub>	Unit risk factor, URF	Reference conc., RfC
(cm)	(cm)	(μg/ <b>m</b> <sup>3</sup> )	(cm)	(cm <sup>3</sup> /s)	(cm²/s)	(cm²)	(unitless)	(unitless)	(μg/ <b>m</b> ³)	(µg/m³) <sup>-1</sup>	(mg/m³)
1112.76	15	5,51E+02	1.25	8.33E+01	5.79E-03	5.00E+03	3.20E+12	5.26E-06	2.90E-03	1.6E-06	5.0E-01

DTSC / HERD Last Update: 11/1/03

# RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

# INCREMENTAL RISK CALCULATIONS:

indoor	Indoor	Risk-based	Pure	Final
exposure	exposure	indoor	component	indoor
groundwater	groundwater	exposure	water	exposure
conc.,	conc.,	groundwater	solubility,	groundwater
carcinogen	noncarcinogen	conc.,	S	conc.,
(µg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)
NA NA	NA	NA	5,06E+06	NA

incremental	Hazard
risk from	quotient
vapor	from vapor
intrusion to	intrusion to
indoor air,	indoor air,
carcinogen	non <b>car</b> cinogen
(unitless)	(unitless)
1.1E-09	3.3E-06

MESSAGE SUMMARY BELOW:

GW-SCREEN Version 3.0; 04/03  Reset to Defaults		YES MENTAL RISKS F	OR ROM ACTUAL GRO	RATION (enter "X" in "Y DUNDWATER CONCER		DTSC Vapor Intrusion 6 Interim Final 12/0 (last modified 1/21	4
	ENTER Chemical CAS No. (numbers only, no dashes)	YEB ENTER Initial groundwater sonc., C <sub>W</sub> (ug/L)	X	Phemical	*		
MORE	95636  ENTER Depth below grade to bottom of enclosed space floor, Le (cm)	2.30E+01  ENTER  Depth below grade to water table, Lw1 (cm)	1,2,4-Tri ENTER  SCS soil type directly above water table	ENTER  Average soil/ groundwater temporature, Ts (PC)		ENTER Average vapor flow rete into bldg. ave blank to oaloula Q <sub>od</sub> (L/m)	nts)
More	ENTER Vadosa zone	1127,76	SIC  ENTER User-defined	24 ENTER	ENTER	5 ENTER	ENTER
	SCS soil type (used to estimate soil vapor permeability) SIC	OR	vandose zone soll vapor permeability, k, (cm²)	Vadose zone SCS soil type Lockup Soil Paramotors	Vadose zone soll dry bulk density, p <sub>0</sub> <sup>V</sup> (g/cm <sup>6</sup> )	Vadose zone soil total porcesty, n <sup>V</sup> (unitless)	Vadose zone soil water-filled porosity, e <sub>x</sub> (cm <sup>9</sup> /cm <sup>9</sup> )
MORE	ENTER Target risk for carcinogens, TH (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, ATo (yrs)	ENTER Averaging time for noncarcinogens, AT <sub>NC</sub> (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/vr)	
	1.0E-06 Used to calcula		70	30	25	250	

ABC		Henry's	Henry's	Enthalpy of	Manne		Organic	Pure	r 1- 33	
Diffusivity in air,	Diffusivity in water.	law constant at reference temperature.	law constant reference temperature,	vaporization at the normal boiling point,	Normal boiling peint,	Critical temperature,	carbon partition coefficient.	component water solubility.	Unit risk factor,	Reference
$D_a$	$D_{w}$	Н	T <sub>R</sub>	$\Delta H_{\nu,b}$	T <sub>B</sub>	T <sub>C</sub>	K <sub>oc</sub>	S	URF	RfC
(cm <sup>2</sup> /s)	(cm²/s)	(atm-m³/mol)	(°C)	(cal/mol)	(°K)	(°K)	(c <b>m</b> <sup>3</sup> /g)	(mg/L)	(µg/m³) <sup>-1</sup>	(mg/m³)
6.06E-02	7.92E-06	6.14E-03	25	9,369	442.30	649.17	1.35E+03	5.70E+01	0.0E+00	6.0E-03

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_a^{\ V}$ (cm³/cm³)	Vadose zone effective total fluid saturation, S <sub>te</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Vadose zone soil intrinsic permeability, k; (cm²)	Vadose zone soil relative air permeability, k <sub>rg</sub> (cm²)	Vadose zone soil effective vapor permeability, k, (cm²)	Thickness of capillary zone,  L <sub>oz</sub> (cm)	Total porosity in capillary zone, n <sub>ez</sub> (cm³/cm³)	Air-filled porosity in capillary zone, $\theta_{a,pz}$ (cm³/cm³)	Water-filled porosity in capillary zone, θ <sub>w,cz</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Floor- wall seam perimeter, X <sub>crack</sub> (cm)	
1112.76	0.280	0.122	1.52E-09	0.937	1.42E-09	192.31	0.481	0.057	0.424	4,000	
Bldg. ventilation rate, Q <sub>building</sub> (cm²/s)	Area of enclosed space below grade, A <sub>B</sub> (cm²)	Crack- to-total area ratio, η (unitless)	Crack depth below grade, Z <sub>crack</sub> (cm)	Enthalpy of vaporization at ave. groundwater temperature, (cal/mol)	Henry's law constant at ave. groundwater temperature, H <sub>TS</sub> (atm-m³/mol)	Henry's law constant al ave. groundwater temperature, H' <sub>TS</sub> (unitless)	Vapor viscostty at ave. soil temperature,  µ <sub>TS</sub> (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>eff</sup> v (cm²/s)	Capillary zone effective diffusion coefficient, D <sup>eff</sup> oz (cm²/s)	Total overall effective diffusion coefficient, D <sup>off</sup> <sub>T</sub> (cm <sup>2</sup> /s)	
3,39E+04	1.00E+06	5.00E-03	15	11,516	5.76E-03	2.36E-01	1.80E-04	4.73E-03	2.75E-05	1.55E-04	
Diffusion path length, L <sub>d</sub> (cm)	Convection path length, L <sub>p</sub> (cm)	Source vapor conc., C <sub>source</sub> (µg/m <sup>2</sup> )	Crack radius, r <sub>orack</sub> (cm)	Average vapor flow rate into bldg., Q <sub>soil</sub> (cm³/s)	Crack effective diffusion coefficient, D <sup>crack</sup> (cm <sup>2</sup> /s)	Area of crack, A <sub>crack</sub> (cm <sup>2</sup> )	Exponent of equivalent foundation Peclet number, exp(Pe <sup>f</sup> )	Infinite source indoor attenuation coefficient,  α (unitless)	Infinite source bidg. conc., C <sub>building</sub> (µg/m³)	Unit risk factor, URF (μg/m³) <sup>-1</sup>	Reference conc., RfC (mg/m³)
(CHI)	(CIII)	(шулт)	(GIII)	(GII 78)	(CIII 7S)	(GIII)	(uniness)	(unidess)	(µg/m )	(µg/m )	(mg/m³)
1112.76	15	5.43E+03	1.25	8.33E+01	4.73E-03	5.00E+03	2.05E+15	4.11E-06	2.23E-02	NA	6,0E-03

DTSC / HERD Last Update; 11/1/03

RESULTS SHEET

# RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

# INCREMENTAL RISK CALCULATIONS:

Indoor exposure groundwater conc., carcinogen (µg/L)	Indoor exposure groundwater conc., noncarcinogen (µg/L)	Risk-based indoor exposure groundwater conc., (µg/L)	Pure component water solubility, S (µg/L)	Final indoor exposure groundwater conc., (µg/L)
NA	NA NA	NA	5.70 <b>E</b> +04	NA

Incrementa)	Hazard
risk from	quotient
vapor	from vapor
intrusion to	intrusion to
indoor air,	indoor air,
carcinogen	noncarcinogen
(unitless)	(unitless)
NA	2 1F-03

MESSAGE SUMMARY BELOW:

GW-SCREEN Version 3.0; 04/03  Reset to Defaults		YES MENTAL RISKS F	OR ROM ACTUAL GRO	PATION (enter "X" in ") DUNDWATER CONCE ()		DTSC Vapor Intrusion G Interim Final 12/04 (lest modified 1/21/	1
	ENTER Chemical CAS No. (numbers only, no dashes)	YES  ENTER Initial groundwater sone, C <sub>W</sub> (µg/L)	хс	hemioal	_		
MORE +	ENTER Depth below grade to bettom of enclosed space floor, Le (orn)	6.30E+00  ENTER  Depth below grade to water lable, LwT (em)	1,3,5-Tri ENTER  SCS soil type directly above water table	methylbenzene  ENTER  Average soil/ groundwater temperature, Ts (°C)	(Le	ENTER Average vapor flow rate into bldg. save blank to calcuta Q <sub>edil</sub> (L/m)	ite)
MORE	ENTER Vadose zone SCS	1127,76	ENTER User-defined vandose zone	24  ENTER Vadose zone	ENTER Vadose zone	ENTER Vadose zone	ENTER Vadose zone
	soil type (used to estimate soil vapor permeability) SIC	OR	soil vapor permeability, k <sub>v</sub> (om <sup>2</sup> )	SCS soil type Lookup Seif Parameters	soil dry bulk density, Pb <sup>V</sup> (g/om <sup>3</sup> )	scil total perosity, n <sup>V</sup> (unitless)	soil water-filled perosity, G <sub>w</sub> <sup>V</sup> (cm <sup>9</sup> /cm <sup>2</sup> )
MORE +	ENTER Target risk for carcinogens, TR (unitlass)	ENTER Target hazard quotient for noncarcinogens, IHQ (unitless)	ENTER Averaging time for carcinogens, AT <sub>0</sub> (yra)	ENTER Averaging time for noncarcinogens, AT <sub>nc</sub> (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	
	1.0E-06	1 te risk-based	70	30	25	250	

ABC		Henry's	Henr√s	Enthalpy of			Organic	Pure		
		law constant	law constant	vaporization at	Normal		carbon	component	Unit	
Diffusivity	Diffusivity	at reference	reference	the normal	boiling	Critical	partition	water	risk	Reference
in air,	in water,	temperature,	temperature,	boiling point,	point,	temperature,	coefficient,	solubility,	factor,	conc.,
$D_a$	$D_{w}$	Н	TR	$\Delta H_{v,b}$	TB	Tc	K <sub>oc</sub>	S	URF	RfC
D <sup>a</sup>	-ω		•н	ZX 1V.D	, В	1.0	1,0C	0	OIL	1110
(cm²/s)	(cm²/s)	(atm-m³/mol)	(°C)	(cal/mol)	(°K)	(°K)	(cm <sup>3</sup> /g)	(mg/L)	(µg/m³) <sup>-1</sup>	(mg/m³)
-					_	-		=		
-					_	-		=		

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_{\rm a}^{\ \ V}$ $({ m cm}^3/{ m cm}^3)$	Vadose zone effective total fluid saturation, Ste (cm³/cm³)	Vadose zone soil intrinsic permeability, k (cm <sup>2</sup> )	Vadose zone soil relative air permeability, k <sub>rg</sub> (cm²)	Vadose zone soil effective vapor permeability, k, (cm²)	Thickness of capillary zone, L <sub>oz</sub> (cm)	Total porosity in capillary zone, n <sub>oz</sub> (cm³/cm³)	Air-filled porosity in capillary zone, e <sub>a,oz</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Water-filled porosity in capillary zone, $\theta_{w,pz}$ (cm³/cm³)	Floor- wali seam perimeter, X <sub>crack</sub> (cm)	<b>-</b>
1112.76	0.280	0.122	1.52E-09	0.937	1.42E-09	192.31	0.481	0.057	0,424	4,000	]
Bldg. ventilation rate, Q <sub>building</sub> (cm³/s)	Area of enclosed space below grade, A <sub>B</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, 1 (unitless)	Crack depth below grade, Z <sub>crack</sub> (cm)	Enthalpy of vaporization at ave. groundwater temperature, (cal/mol)	Henry's law constant at ave, groundwater temperature, H <sub>TS</sub> (atm-m <sup>2</sup> /mol)	Henry's law constant at ave, groundwater temperature, H' <sub>TS</sub> (unitless)	Vapor viscosity at ave. soil temperature,  µ <sub>TS</sub> (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>aff</sup> v (cm <sup>2</sup> /s)	Capillary zone effective diffusion coefficient, D <sup>eff</sup> oz (cm²/s)	Total overall effective diffusion coefficient, D <sup>eff</sup> <sub>T</sub> (cm <sup>2</sup> /s)	ı
3.39E+04	1.00E+06	5.00E-03	15	11,495	5.50E-03	2.25E-01	1.80E-04	4.70E-03	2.86E-05	1.61E-04	
Diffusion path length, L <sub>d</sub> (cm)	Convection path length, L <sub>p</sub> (cm)	Source vapor conc., C <sub>source</sub> (µg/m³)	Crack radius, r <sub>orack</sub> (cm)	Average vapor flow rate into bldg.,  Q <sub>soil</sub> (cm <sup>3</sup> /s)	Crack effective diffusion coefficient, D <sup>crack</sup> (cm <sup>2</sup> /s)	Area of crack, A <sub>crack</sub> (cm <sup>2</sup> )	Exponent of equivalent foundation Peclet number, exp(Pe <sup>f</sup> ) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., C <sub>building</sub> (µg/m³)	Unit risk factor, URF (μg/m³)-1	Reference conc., AfC (mg/m³)
440.70	1 45	1,42E+03	1.25	8.33E+01	4.70E-03	5.00E+03	2.59E+15	4.26E-06		l NA	6 0E 00
1112.76	15	1.445	1.23	0.33⊏+01	4./∪⊏*∪3	ნ.სს⊏+სა	Z.39E+15	4.200*00	6.05E-03	I IVA	6.0E-03

# RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

# INCREMENTAL RISK CALCULATIONS:

Indoor exposure groundwater conc., carcinogen (µg/L)	Indoor exposure groundwater conc., noncarcinogen (µg/L)	Risk-based indoor exposure groundwater conc., (µg/L)	Pure component water solubility, S (µg/L)	Final indoor exposure groundwater conc., (µg/L)
NA	NA	NA	2.00E+03	NA

Incremental	Hazard
risk from	quotient
vapor	from vapor
intrusion to	intrusion to
indoor air,	indoor air,
carcinogen	noncarcinogen
(unitless)	(unitless)
	•
NA	5.8E-04

MESSAGE SUMMARY BELOW:

GW-SCREEN Version 3.0; 04/03							
Varnian 2 0: 04/00	CALCULATE RISK-E	ASED GROUNDY	VATER CONCENTE	ATION (enter "X" in "Y	ES" boxj	DTSC	
version a.u. u4/05 l						Vapor Intrusion G	uidance
1.1,6,6,1,-13,1,1,1,1		YES				Interim Final 12/04	
Deserte		123					
Reset to			· OR			(last modified 1/21/	05)
Defaults				JNDWATER CONCE	NOTEMET		
	(enter "X" in "YES" b	ox and initial groun	dweter conc. below)				
		1.50	- V				
		YES	X				
	CHITCH	ral/ren					
	ENTER	ENTER					
	Chemical	Initial groundwater					
	CAS No.	coue.*					
	(numbers only,						
	no dashes)	С <sub>W</sub> (µд/Е)	Ch	emical			
	IIO destica)	(July 2)	- Cil	Cilioa	_		
	135988	7,30E±01	sec-Bu	tylbenzene			
-	ENTER	ENTER	ENTER	ENTER			
MORE	Depth	CHICK	ENTER	ENIER			
, T	below grade			Average		ENTER	
	to bottom	Depth		scil/		Average vapor	
	of enclosed	below grade	SCS	groundwater		flow rate into bldg.	
	space floor,	to water table,	soil type	temperature,	(Lea	we blank to calcula	le)
	Lp	L <sub>WT</sub>	directly above	Ts		$\Omega_{\rm sol}$	
	(cm)	(cm)	water table	(°O)		(L/m)	
		in a second			-		
	15	1127.76	SIC	24	T . 1	5	
MORE Ψ							
	ENTER						
			ENTER	-			
	Vadose zone		User-defined	ENTER Vodeop zopo	ENTER Vadose Tres	ENTER Vodess ross	ENTER
	Vadose zone SCS		User-defined vandose zone	Vadose zone	Vadose zone	Vadose zone	Vadose zor
	Vadose zone SCS soil type	OB	User-defined vandose zone soil vapor	Vadose zone SCS	Vadose zone soil dry	Vadose zone soil total	Vadose zon soil water-fil
	Vadose zone SCS soil type (used to estimate	OR	User-defined vandose zone soil vapor permeability,	Vadose zone SCS soil type	Vadose zone soil dry bulk density,	Vadose zone. soil total porosity,	Vadose zon soil water-fill porosity,
	Vadose zone SCS soil type (used to estimate soil vapor	OR	User-defined vandose zone soil vapor penneability, k <sub>r</sub>	Vadose zone SCS	Vadose zone soil dry bulk density, pb <sup>V</sup>	Vadose zone soil total porosity, n <sup>V</sup>	Vadose zo soil water-fil porosity, θ <sub>w</sub> V
	Vadose zone SCS soil type (used to estimate	oR	User-defined vandose zone soil vapor permeability,	Vadose zone SCS soil type Lockup Soil	Vadose zone soil dry bulk density,	Vadose zone. soil total porosity,	Vadose zor soil water-fil porosity, θ <sub>w</sub> V
	Vadose zone SCS soil type (used to estimate soil vapor	OR	User-defined vandose zone soil vapor penneability, k <sub>r</sub>	Vadose zone SCS soil type Lockup Soil	Vadose zone soil dry bulk density, pb <sup>V</sup>	Vadose zone soil total porosity, n <sup>V</sup>	Vadose zor soil water-fill porosity,
	Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	User-defined vandose zone soil vapor penneability, k <sub>r</sub>	Vadose zone SCS soil type Lockup Soil Parameters	Vadose zone soil dry bulk density, p <sub>b</sub> <sup>V</sup> (g/cm <sup>3</sup> )	Vadose zone soil total porosity, n <sup>V</sup> (unitless)	Vadose zor soil water-fill porosity, 6,,, (cm <sup>3</sup> /cm <sup>3</sup> )
MORE	Vadose zone SCS Soil type (used to estimate soil vapor permeability)		User-defined vandose zone soil vapor permeability, k <sub>r</sub> (cm²)	Vadose zone SCS soft type Lockup Sall Parametere	Vadose zone soil dry butk density, p <sub>b</sub> <sup>V</sup> (g/cm <sup>3</sup> )	Vadose zone soil total porosity, n <sup>V</sup> (unitless)	Vadose zor soil water-fill porosity, 6,,, (cm <sup>3</sup> /cm <sup>3</sup> )
MORE +	Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC	ENTER	User-defined vandese zone soil vapor permeability, k, (cm²)	Vadose zone SCS soil type Lockup Soil Parameters	Vadose zone soil dry bulk density, p <sub>b</sub> <sup>V</sup> (g/cm <sup>3</sup> )	Vadose zone soil total porosity, n <sup>V</sup> (unitless)	Vadose zor soil water-fill porosity, $\theta_w^{-V}$ {cm <sup>2</sup> /cm <sup>2</sup> }
	Vadose zone SCS soil type (used to estimate soil vapor parmeability) SIC  ENTER Target	ENTER Target hazard	User-defined vandese zone soil vapor permeability, k, (cm²)	Vadose zone SCS soft type Lockup Soft Parameter  SIC  ENTER Averaging	Vadose zone soli dry butk density, pb (g/cm²)  1.5	Vadose zone soil total porosity, n <sup>V</sup> (unitless)  C.43	Vadose zor soil water-fill porosity, 6,,, (cm <sup>3</sup> /cm <sup>3</sup> )
	Vadose zone SCS Soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for	ENTER Target hazard quotient for	User-defined vandose zone soil vapor permeability, k <sub>r</sub> (erm²)  ENTER Averaging time for	Vadose zone SCS Soft type Lockup Soft Parametere SIC  ENTER Averaging turns for	Vadose zone soil dry butk density, pt (g/cm²)  1.5  ENTER Exposure	Vadose zone soil total porosity, n V (unitless)  0.43  ENTER  Exposure	Vadose zor soil water-fill porosity, 6,,, (cm <sup>3</sup> /cm <sup>3</sup> )
	Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for carcinogens,	ENTER Target hazard quotient for	User-defined vandese zone soil vapor permeability, k, (cm²)  ENTER Averaging time for careinogens,	Vadose zone SCS soft type Lockup Soft Parametere SIC  ENTER Averaging time for noncarcinogens,	Vadose zone soff dry butk density, pb v (g/cm²) 1.5	Vadose zone soil total poresity, nY (unitless)  0.43  ENTER Exposure frequency,	Vadose zor soil water-fill porosity, 6,,, (cm <sup>3</sup> /cm <sup>3</sup> )
	Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for carcinogens,	ENTER Target hazard quotient for nonoardinogens, THQ	User-defined vandose zone soil vapor permeability, k, (cm²)  ENTER Averaging time for carcinogens, ATo	Vadose zone SCS soil type Lockup Soil Parameters  SIC  ENTER Averaging time for noncarcinogens, ATNO	Vadose zone sofi dry butk density, Pb (g/cm²)  1.5  ENTER Exposure duration, ED	Vadose zone soil total porosity, n (unitless)  C.43  ENTER  Exposure frequency, EF	Vadose zor soil water-fill porosity, 6,,, (cm <sup>3</sup> /cm <sup>3</sup> )
	Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for carcinogens,	ENTER Target hazard quotient for	User-defined vandese zone soil vapor permeability, k, (cm²)  ENTER Averaging time for careinogens,	Vadose zone SCS soft type Lockup Soft Parametere SIC  ENTER Averaging time for noncarcinogens,	Vadose zone soff dry butk density, pb v (g/cm²) 1.5	Vadose zone soil total poresity, nY (unitless)  0.43  ENTER Exposure frequency,	Vadose zor soil water-fill porosity, $\theta_w^{-V}$ {cm <sup>2</sup> /cm <sup>2</sup> }
	Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for carcinogens,	ENTER Target hazard quotient for nonoardinogens, THQ	User-defined vandose zone soil vapor permeability, k, (cm²)  ENTER Averaging time for carcinogens, ATo	Vadose zone SCS soil type Lockup Soil Parameters  SIC  ENTER Averaging time for noncarcinogens, ATNO	Vadose zone sofi dry butk density, Pb (g/cm²)  1.5  ENTER Exposure duration, ED	Vadose zone soil total porosity, n (unitless)  C.43  ENTER  Exposure frequency, EF	Vadose zor soil water-fill porosity, $\theta_w^{-V}$ {cm <sup>2</sup> /cm <sup>2</sup> }

ABC  Diffusivity Diffusivity In air, in water, Da Dw  (cm²/s) (cm²/s)	Henry's law constant at reference temperature, H (atm-m <sup>3</sup> /mol)	Henry's law constant reference temperature, T <sub>R</sub> (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T <sub>B</sub> (°K)	Critical temperature, T <sub>C</sub> (°K)	Organic carbon partition coefficient, K <sub>oc</sub> (cm³/g)	Pure component water solubility, S (mg/L)	Unit rişk factor, URF (µg/m³) <sup>-1</sup>	Reference conc., RfC (mg/m³)
5.70E-02   8.12E-06	1,39E-02	25	88,730	446.50	679,00	9.66E+02	3.94E+00	0,0E+00	1.4E-01

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_a^{V}$ (cm³/cm³)	Vadose zone effective total fluid saturation, Ste (cm³/cm³)	Vadose zone soil intrinsic permeability, k (cm²)	Vadose zone soil relative air permeability, k <sub>tg</sub> (cm <sup>2</sup> )	Vadose zone soil effective vapor permeability, k, (cm²)	Thickness of capillary zone,  L <sub>cz</sub> (cm)	Total porosity in capillary zone, n <sub>oz</sub> · (cm³/cm³)	Air-filled porosity in capillary zone, θ <sub>a,ρz</sub> (cm³/cm³)	Water-filled porosity in capillary zone, e <sub>w,cz</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Floor- wall searn perimeter, X <sub>crack</sub> (cm)	<u>.</u>
1112.76	0.280	0.122	1.52E-09	0.937	1.42E-09	192.31	0.481	0.057	0.424	4,000	]
Bldg. ventilation rate, Q <sub>building</sub> (cm³/s)	Area of enclosed space below grade, A <sub>6</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, म (unitless)	Crack depth below grade, Z <sub>erack</sub> (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. groundwater temperature, H <sub>TS</sub> (atm-m <sup>3</sup> /moi)	Henry's law constant at ave. groundwater temperature, H' <sub>15</sub> (unitless)	Vapor viscosity at ave. soil temperature,  µrs (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>elf</sup> v (cm <sup>2</sup> /s)	Capillary zone effective diffusion coefficient, D <sup>eff</sup> <sub>cz</sub> (cm <sup>2</sup> /s)	Total overall effective diffusion coefficient, D <sup>eff</sup> (cm <sup>2</sup> /s)	
3.39E+04	1.00E+06	5,00E-03	15	106,642	7,56E-03	3.10E-01	1.80E-04	4.45E-03	2.46E-05	1.39E-04	
Diffusion path length, L <sub>d</sub> (cm)	Convection path length, L <sub>p</sub> (cm)	Source vapor conc., C <sub>source</sub> (µд/m²)	Crack radius, r <sub>orack</sub> (cm)	Average vapor flow rate into bldg., Q <sub>soil</sub> (cm³/s)	Crack effective diffusion coefficient, D <sup>crack</sup> (cm <sup>2</sup> /s)	Area of crack, A <sub>crack</sub> (cm <sup>2</sup> )	Exponent of equivalent foundation Peclet number, exp(Pef) (unitless)	Infinite source indoor affenuation coefficient, α (unitless)	Infinite source bldg. conc., C <sub>building</sub> (µg/m³)	Unit risk factor, URΓ (μg/m³)-1	Reference conc., RfC (mg/m³)
1112.76	15	2,26E+04	1.25	8.33E+01	4.45E-03	5.00E+03	1.90E+16	3.67E-06	8.30E-02	l NA	1.4E-01

DTSC / HERD Last Update: 11/1/03

# RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

# INCREMENTAL RISK CALCULATIONS:

indoor exposure groundwater conc., carcinogen (µg/L)	Indoor exposure groundwater conc., noncarcinogen (µg/L)	Risk-based indoor exposure groundwater conc., (µg/L)	Pure component water solubility, S (ug/L)	Final indoor exposure groundwater conc., (µg/L)
NA	l NA	NA.	3.94E+03	NA

Incremental	Hazard
risk from	quotient
vapor	from vapor
intrusion to	intrusion to
indoor air,	indoor air,
carcinogen	noncarcinogen
(unitless)	(unitless)
NA	3.4E-04

MESSAGE SUMMARY BELOW:

CALCULATE INCRE (enter "X" in "YES" b ENTER	YES EMENTAL RISKS FI	OR ROM ACTUAL GRO dweter conc. below	ATION (enter "X" in "Y: UNDWATER CONCE!		DTSC Vapor Intrusion Gu Interim Final 12/04	
CALCULATE INCRE (enter "X" in "YES" b ENTER	EMENTAL, RISKS FI boox and initial groun YES	ROM ACTUAL GRO dweter conc. below	UNDWATER CONCER			
(enter "X" in "YES" b	EMENTAL, RISKS FI boox and initial groun YES	ROM ACTUAL GRO dweter conc. below	UNDWATER CONCE		Interim Final 12/04	
(enter "X" in "YES" b	EMENTAL, RISKS FI boox and initial groun YES	ROM ACTUAL GRO dweter conc. below	UNDWATER CONCE		THE THE TEST	
(enter "X" in "YES" b	concernd initial groun	ROM ACTUAL GRO dweter conc. below	UNDWATER CONCE		Or a horse of a second di	
(enter "X" in "YES" b	concernd initial groun	dwater conc. below	UNDWATER CONCE		(last modified 1/21/	05)
ENTER	YES			NTRATION		
			)			
		V				
	EMIED	X				
	Initial					
Chemice:	groundwater					
CAS No.	conc.,					
(numbers only,	Cw					
no deshes)	(µg/L)	CH	remical			
	74-7					
71432	3.14E+00	Bi	enzene	1		
	and transport			_		
ENTER Depth	ENTER	ENTER	ENTER			
below grade			Average		ENTER	
to bottom	Depth		soil		Average vapor	
of enclosed	below grade	SCS	groundwater	1	flow mate into bldg.	
space floor,	to water table,	soil type	temperature,		we blank to calculat	<b>(e</b> )
LF	L <sub>WT</sub>	directly above	Ts		Cl <sub>ace</sub>	
(cm)	(cm)	water table	(°C)		(L/m)	
				3		
15	1127.76	SIC	24		5	
ENTER Vadose zone SCS soil type (used to estimate	OR	ENTER User-defined vandose zone soil vapor permeability,	ENTER Vadose zone SCS soil type	ENTER Vadose zone soil dry bulk density,	ENTER Vadose zone soil total porosity,	ENTER Vadose zon soil water-fill perosity,
soll vapor permeability)	E .	k <sub>v</sub> (cm²)	Lockup Scill Parameters	Po <sup>V</sup> (g/cm <sup>S</sup> )	n <sup>V</sup> (unitless)	6, V (cm³/cm³)
soll vapor			Lookup Soil	PbV		6, V
soll vapor permeability)	1		Lookup Soil Parameters	Pb <sup>V</sup> (g/cm <sup>8</sup> )	(unitless)	6, V (cm³/cm³)
soll vapor permeability)	ENTER		Lookup Soil Parameters	Pb <sup>V</sup> (g/cm <sup>8</sup> )	(unitless)	6,√ (cin³/cm³)
soil vapor permeability) SIC  ENTER Target	ENTER Target hazard	(cm²)  ENTER Averaging	Lookup Sell Parameters  SIC  ENTER Averaging	Pb <sup>Y</sup> (g/cm <sup>2</sup> )  1.5  ENTER	(unitless)  0.43	6, V (cm³/cm³)
soil vapor permeability)  SIC  ENTER Target risk for	ENTER Target hazard quotient for	(cm²)  ENTER Averaging time for	Lockup Seil Peremetere  SIC  ENTER Averaging time for	Pb <sup>Y</sup> (q/cm <sup>2</sup> )  1.5  ENTER Exposure	(unitless)  0.43  ENTER  Exposure	6, V (cm³/cm³)
soil vapor permeability)  SIC  ENTER Target risk for carcinogens,	ENTER Target hazard quotient for noncarchrogens,	enter Enter Averaging time for carcinogens,	Lockup Sell Parameters  SIC  ENTER Averaging time for noncarcinogens,	pb <sup>V</sup> (g/cm <sup>2</sup> )  1.5  ENTER  Exposure duration,	(unitless)  0.43  ENTER  Exposure frequency,	6, V (cm³/cm³)
soil vapor permeability)  SIC  ENTER Target risk for carcinogens, TR	ENTER Target hazard quotient for noncarchrogens, THQ	ENTER Averaging time for caroinogers, ATc	ENTER Averaging time for noncarcinogens,	pb (g/cm²)  1.5  ENTER  Exposure duration, ED	(unitless)  0.43  ENTER  Exposure frequency, EF-	6, V (cm³/cm³)
soil vapor permeability)  SIC  ENTER Target risk for carcinogens,	ENTER Target hazard quotient for noncarchrogens,	enter Enter Averaging time for carcinogens,	Lockup Sell Parameters  SIC  ENTER Averaging time for noncarcinogens,	pb <sup>V</sup> (g/cm <sup>2</sup> )  1.5  ENTER  Exposure duration,	(unitless)  0.43  ENTER  Exposure frequency,	6,√ (cin³/cm³)
soil vapor permeability)  SIC  ENTER Target risk for carcinogens, TR	ENTER Target hazard quotient for noncarchrogens, THQ	ENTER Averaging time for caroinogers, ATc	ENTER Averaging time for noncarcinogens,	pb (g/cm²)  1.5  ENTER  Exposure duration, ED	(unitless)  0.43  ENTER  Exposure frequency, EF-	6, V (cm³/cm³)
soil vapor permeability)  SIC  ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarchrogens, THQ (unitless)	ENTER Averaging time for caroinogens, ATc. (yrs)	ENTER Averaging time for noncaroinogens, ATNC (yrs)	(g/cm²)  1.5  ENTER  Exposure duration, ED (yrs)	(unitless)  0.43  ENTER  Exposure frequency, EF (days/yr)	6, V (cm³/cm³)
L <sub>F</sub> (cm)  15  ENTER Vadose zone SCS soil type	L <sub>WT</sub> (cm)	directly above water table  SIC  SIC  ENTER User-defined vandose zone soil vapor	Ts (*C) 24 ENTER Vadose zone SCS	ENTER Vadose zone soil dry	Q <sub>adi</sub> (L/m)  5  ENTER Vadose zone soil total	Va

ABC										
		Henry's	Henry's	Enthalpy of			Organic	Pure		
		law constant	law constant	vaporization at	Normal		carbon	component	Unit	
Diffusivity	Diffusivity	at reference	reference	the normal	boi∣ing	Critical	partition	water	risk	Reference
in air,	in water,	temperature,	temperature,	boiling point,	point,	temperature,	coefficient,	solubility,	factor,	conc.,
$D_a$	$D_{w}$	Н	$T_R$	$\Delta H_{v,b}$	Τ <sub>B</sub>	$T_c$	K <sub>oc</sub>	S	URF	RfC
(cm²/s)	(cm²/s)	(atm-m³/mol)	(°C)	(cal/mol)	(°K)	(°K)	(cm³/g)	(mg/L)	(µg/m³) <sup>-1</sup>	(mg/ <b>m</b> <sup>3</sup> )
8.80E-02	9.80E-06	5.54E-03	25	7,342	353.24	562.16	5.89E+01	1.79E+03	2.9E-05	3.0E-02

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_a^{\ V}$ (cm³/cm³)	Vadose zone effective total fluid saturation, S <sub>te</sub> (cm³/cm³)	Vadose zone soil intrinsic permeability, k <sub>i</sub> (cm <sup>2</sup> )	Vadose zone soil relative air permeability, k <sub>g</sub> (cm²)	Vadose zone soil effective vapor permeability, k, (cm²)	Thickness of capillary zone, L <sub>oz</sub> (cm)	Total porosity in capillary zone, n <sub>oz</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Air-filled porosity in capillary zone, θ <sub>a,pz</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Water-filled porosity in capillary zone, $\theta_{w,oz}$ (cm <sup>3</sup> /cm <sup>3</sup> )	Floor- wall seam perimeter, X <sub>crack</sub> (cm)	-
1112.76	0.280	0.122	1.52E-09	0.937	1.42E-09	192.31	0.481	0.057	0.424 -	4,000	]
Bldg. ventilation rate, Q <sub>building</sub> (cm <sup>3</sup> /s)	Area of enclosed space below grade, A <sub>B</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, η (unitless)	Crack depth below grade, Z <sub>crack</sub> (cm)	Enthalpy of vaporization at ave. groundwater temperature, ΔΗ <sub>ν,TS</sub> (cal/mol)	Henry's law constant at ave. groundwater temperature, H <sub>TS</sub> (atm-m³/mol)	Henry's law constant at ave. groundwater temperalure, H' <sub>TS</sub> (unitless)	Vapor viscosity at ave. soil temperature, μτs (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>eff</sup> y (cm <sup>2</sup> /s)	Capillary zone effective diffusion coefficient, D <sup>eff</sup> <sub>cz</sub> (cm <sup>2</sup> /s)	Total overall effective diffusion coefficient, D <sup>eff</sup> <sub>T</sub> (cm <sup>2</sup> /s)	=
3.39E+04	1.00E+06	5.00E-03	15	7,977	5.29E-03	2.17E-01	1.80E-04	6.86E-03	3.91E-05	2.20E-04	]
Diffusion path length,	Convection path length,	Source vapor conc.,	Crack radius,	Average vapor flow rate into bldg.,	Crack effective diffusion coefficient,	Area of crack,	Exponent of equivalent foundation Peclet number,	Infinite source indoor attenuation coefficient,	Infinite source bldg, conc.,	Unit risk factor,	Reference
L <sub>đ</sub>	Lp	C <sub>source</sub>	r <sub>crack</sub>	$Q_{\rm soff}$	D <sup>crack</sup>	A <sub>crack</sub>	exp(Pe <sup>f</sup> )	α	C <sub>building</sub>	URF	RfC
(cm)	(cm)	(μg/ <b>m</b> ³)	(cm)	(cm³/s)	(cm²/s)	(cm²)	(unitless)	(unitless)	(mg/m³)	(μg/m³) <sup>-1</sup>	(mg/m³)
			<del></del>								
1112.76	15	6.81E+02	1.25	8.33E+01	6.86E-03	5.00E+03	3.50E+10	5.83E-06	3.97E-03	2.9E-05	3.0E-02

# RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

# INCREMENTAL RISK CALCULATIONS:

Hazard

Indoor exposure groundwater conc., carcinogen (µg/L)	Indoor exposure groundwater conc., noncarcinogen (µg/L)	Risk-based indoor exposure groundwater conc., (µg/L)	Pure component water solubility, S (µg/L)	Final indoor exposure groundwater conc., (µg/L)
NA	NA NA	NA	1.79E+06	NA

risk from	quotient
vapor	from vapor
intrusion to	intrusion to
indoor air,	indoor air,
carcinogen	noncarcinogen
(unitless)	(unitless)
(unitless)	(unitless)
2.8E-08	7.6E-05

Incremental

MESSAGE SUMMARY BELOW:

GW-SCREEN ersion 3.0; 04/03 Reset to Defaults		YES EMENTAL RISKS F	OR ROM ACTUAL GRI dwaler cono. beloa	RATION (enter "X" in "Y DUNDWATER CONCE! w)		DTSC Vapor Intrusion 6 Interim Final 12/0 (last modified 1/21	4
	156592	5.50E+00	ois 4 2.7	Dichlargethylene	7		
	156592	5.50E+00	CIS-1,Z-L	nonlordethylene	_		
MORE ↓	ENTER Depth below grade to bottom of enclosed space floor, LF (em)	ENTER  Depth below grade to water table, LWT (cm)	SCS Soil type directly above water table	Average eoil/ groundwater temperature, Ts (*C)		ENTER Average vapor flow rate into bidg, eve blank to calcule (2 <sub>call</sub> (L/m)	ala)
	15	1127.76	sic	24		5	
	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k, (om²)	ENTER Vadose zone SCS Soil type Lockup Soil Parametes	ENTER Vadose zone soil dry bulk density, Pt (g/om²)	ENTER Vadose zone soil total poresty, n V (unitless)	ENTER Vadose zone soil water-fille porosity, 6
	SIC	1		SIC	1.5	0.43	0.15
MORE	ENTER Target risk tor carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER Averaging time for carcinogens, ATc. (yrs)	ENTER Averaging time for noncardinogens, AT <sub>NC</sub> (yrs)	ENTER Exposure duration, ED	ENTER Exposure frequency, EF	
					(yrs)	(days/yr)	
	1.0E-06	1	70	30	25	250	

Diffusivity in air, D <sub>a</sub> (cm²/s)	Diffusivity in water, D <sub>w</sub> (cm <sup>2</sup> /s)	law constant at reference temperature, H (atm-m²/mol)	law constant reference temperature, T <sub>8</sub> (°C)	vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T <sub>B</sub> (°K)	Critical temperature, T <sub>c</sub> (°K)	carbon partition coefficient, K <sub>oc</sub> (cm <sup>3</sup> /g)	component water solubility, S (mg/L)	Unit risk factor, URF (µg/m <sup>8</sup> )-1	Reference conc., RIC (mg/m³)
7.36E-02	1.13E-05	4.07E-03	25	7,192	333.65	544.00	3.55E+01	3.50E+03	0.0E+00	3.5E-02

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_a^V$ (cm³/cm³)	Vadose zone effective total fluid saturation, S <sub>le</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Vadose zone soil intrinsic permeability, k; (cm²)	Vadose zone soil relative air permeability, k <sub>rg</sub> (cm²)	Vadose zone soil effective vapor permeability, k, (cm²)	Thickness of capillary zone, L <sub>oz</sub> (cm)	Total porosity in capillary zone, n <sub>oz</sub> (cm³/cm³)	Air-filled porosity in capillary zone, <sub>0a,oz</sub> (cm³/cm³)	Water-filled porosity in capillary zone, $\theta_{w,c2}$ (cm³/cm³)	Floor- wall seam perimeter, X <sub>crack</sub> (cm)	a.
1112.76	0.280	0.122	1.52E-09	0.937	1.42E-09	192.31	0.481	0.057	0.424	4,000	
Bldg. ventilation rate, Q <sub>building</sub> (cm <sup>3</sup> /s)	Area of enclosed space below grade, A <sub>B</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, η (unitless)	Crack depth below grade, Z <sub>crack</sub> (cm)	Enthalpy of vaporization at ave. groundwater temperature, (cal/mol)	Henry's law constant at ave. groundwater temperature, H <sub>TS</sub> (atm-m <sup>3</sup> /mol)	Henry's law constant at ave. groundwater temperature, H' <sub>TS</sub> (unitless)	Vapor viscosity at ave. soil temperature,  µrs (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>off</sup> y (cm <sup>2</sup> /s)	Capillary zone effective diffusion coefficient, D <sup>eff</sup> oz (cm²/s)	Total overall effective diffusion coefficient, D <sup>eff</sup> <sub>7</sub> (cm <sup>2</sup> /s)	
3.39E+04	1.00E+06	5.00E-03	15	7,592	3,90E-03	1.60E-01	1.80E-04	5.74E-03	4.09E-05	2.29E-04	
Diffusion path length, L <sub>d</sub> (cm)	Convection path length, L <sub>p</sub> (cm)	Source vapor conc., C <sub>source</sub> (µg/m³)	Crack radius, r <sub>orack</sub> (cm)	Average vapor flow rate into bldg., Q <sub>sol</sub> (cm <sup>3</sup> /s)	Crack effective diffusion coefficient, D <sup>crack</sup> (cm <sup>2</sup> /s)	Area of crack, A <sub>crack</sub> (cm²)	Exponent of equivalent foundation Peclet number, exp(Pe <sup>f</sup> ) (unitless)	infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., C <sub>building</sub> (µg/m³)	Unit risk factor, URF (µg/m³) <sup>-1</sup>	Reference conc., BfC (mg/m³)
1112.76	15	8.79E+02	1.25	8.33E+01	5.74E-03	5.00E+03	4.04E+12	6.05E-06	5.32E-03	NA.	3.5E-02

DTSC / HERD Last Update: 11/1/03

# HISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

# INGREMENTAL RISK CALCULATIONS:

Indoor exposure groundwater conc., cardnogen (µg/L)	indoor exposure groundwater conc., noncarcinogen (µg/L)	Risk-based indoor exposure groundwater conc., (µg/L)	Pure component water solubility, S (µg/L)	Final indoor exposure groundwater conc., (µg/L)
NA	NA	NA	3.50E+06	NA

Incremental	Hazard
risk from	quotient
vapor	from vapor
intrusion to	intrusion to
indoor air,	indoor air,
carcinogen	noncarcinogen
(unitless)	(unitless)
NA	8.7E-05

MESSAGE SUMMARY BELOW:

GW-SCREEN ersion 3.0; 04/03	CALCULATE RISK-	BASED GROUNDY YES		RATION (enter "X" in "Y		DTSC Vapor Intrusion 6 Interim Final 12/0	4
Reset to Defaults	CALCULATE INCRE			DUNDWATER CONCEI		(last modified 1/2)	(/05)
		YES	X				
	ENTER	ENTER					
	Chemical	initial groundwater					
	CAS No. (numbers only,	conc.,					
	no dashes)	C <sub>W</sub> (µg/L)		hemical	_		
	100414	2.10E+01	Eth	ylbenzene	7		
	ENTER	ENTER	ENTER	ENTER			
MORE	Depth below grade			Average		ENTER	
	to bottom	Depth		\lioe		Average vapor	
	of enclosed	below grade	scs	groundwater		flow rate into bidg.	
	space floor,	to water lable,	soil type	temperature,	(Lea	ave blank to calcula	ele)
	L <sub>F</sub>	LwT	directly above	T <sub>S</sub>		O <sub>acil</sub>	
	(cm)	(cm)	water table	(°C)	_	(L/m)	
	15	1127.76	SIC	24	]	5	
MORE U	ENTER Vadose zone SCS soil type (used to estimate soil vapor	1127.76	ENTER User-defined vandose zone soil vapor permeability, k,	ENTER Vadose zone SCS soil type Lookup Soil Parameters	ENTER Vadose zone soil dry bulk density,	ENTER Vadose zone soil total porosity,	soil water-fill porosity, $\theta_w^{\ \ \ \ \ \ }$
	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)		ENTER User-defined vandose zone soil vapor permeability,	ENTER Vadose zono SCS soil type Lookup Soil Purusauters	Vadose zone soil dry bulk density, p <sub>t</sub> <sup>Y</sup> (g/cm²)	ENTER Vadose zone soil total porosity,	Vadose zon soil water-filk porosity, 0,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	ENTER Vadose zone SCS soil type (used to estimate soil vapor		ENTER User-defined vandose zone soil vapor permeability, k,	ENTER Vadose zone SCS soil type Lookup Sof	Vadose zone soil dry bulk density, Pb	ENTER Vadose zone soil total porosity,	Vadose zon soil water-fill porosity. $\theta_w^{V}$
	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)		ENTER User-defined vandose zone soil vapor permeability, k,	ENTER Vadose zono SCS soil type Lookup Soil Purusauters	Vadose zone soil dry bulk density, p <sub>t</sub> <sup>Y</sup> (g/cm²)	ENTER Vadose zone soil total porosity, n v (unitless)	Vadose zon soil water-filk porosity, 0,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
₩ORE	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for carcinogens, TR	ENTER Target hazard quotient for noncarcinogens, THQ	ENTER User-defined vandose zone soil vapor permeability, k <sub>v</sub> (cm²)  ENTER Averaging time for carcinogens, AT <sub>C</sub>	ENTER Vadose zone SCS soil type Lookup Soil Parameters  SIC  ENTER Averaging firme for noncarcinogens, ATING	Vadose zone soil dry bulk density, ph (g/cm²) 1.5  ENTER  Exposure duration, ED	ENTER Vadose zone soil total porosity, n (unitless)  0.43  ENTER Exposure fraquency, EF	Vadose zon soil water-filk porosity, 0,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

ABC  Diffusivity in air,  D <sub>a</sub>	Diffusivity in water, D <sub>w</sub>	Henry's law constant at reference temperature, H	Henry's law constant reference temperature, T <sub>R</sub>	Enthalpy of vaporization at the normal boiling point, ΔH <sub>v,b</sub>	Normal boiling point, T <sub>B</sub>	Critical temperature, T <sub>C</sub>	Organic carbon partition coefficient, K <sub>oc</sub>	Pure component water solubility, S	Unit risk factor, URF	Reference conc., RfC
(cm²/s)	(cm²/s)	(atm-m³/mol)	(°C)	(cal/mol)	(°K)	(°K)	(cm³/g)	(mg/L)	(μg/m³) <sup>-1</sup>	(mg/m³)
7.50E-02	7.80E-06	7.86E-03	25	8,501	409.34	617.20	3,63E+02	1.69E+02	0.0E+00	1.0E+00

Source- building separation,	Vadose zone soil air-filled porosity,	Vadose zone effective total fluid saturation,	Vadose zone soil intrinsic permeability,	Vadose zone soil relative air permeability,	Vadose zone soil effective vapor permeability,	Thickness of capillary zone,	Total porosity in capillary zone,	Air-filled porosity in capillary zone,	Water-filled porosity in capillary zone,	Floor- wall seam perimeter,	
L <sub>T</sub> (cm)	θ <sub>a</sub> <sup>V</sup> (em³/em³)	S <sub>te</sub> {cm³/cm³}	k; (cm²)	لا <sub>به</sub> (cm²)	<b>k,</b> (cm²)	L <sub>∞</sub> (em)	n <sub>ex</sub> (cm³/cm³)	θ <sub>apz</sub> (cm³/cm³)	θ <sub>ო,cz</sub> (cm³/cm³)	(cm)	
1112.76	<b>0.2</b> 80	0.122	1.52E-09	0.937	1.42E-09	192.31	0.461	0.057	0.424	4,000	
Bidg. ventilation rate, G <sub>buldino</sub> (cm <sup>3</sup> /s)	Area of enclosed space below grade,  A <sub>B</sub> (cm²)	Crack- to-total area ratio, ຖ (unitiess)	Crack depth below grade, Z <sub>orack</sub> (cm)	Enthalpy of vaporization at ave, groundwater temperature, \( \Delta H_{v,TS} \) (cal/mol)	Henry's law constant at ave. groundwater temperature, H <sub>TS</sub> (atm-m <sup>2</sup> /mot)	Henry's law constant at ave. groundwater temperature, H' <sub>TE</sub> (unitless)	Vapor viscosity at ave, soil temperature,	Vadose zone effective diffusion coefficient, D <sup>orr</sup> v (cm <sup>2</sup> /s)	Capillary zone effective diffusion coefficient, D <sup>eff</sup> oz (cm²/s)	Total overall effective diffusion coefficient, $D^{eff}_{T}$ (cm <sup>2</sup> /s)	
3,39E+04	1.00E+06	5.00E-03	15	9,994	7.43E-03	3.05E-01	1.80E-04	5.85E-03	3.02E-05	1.70E-04	]
Diffusion path length, L <sub>d</sub> (cm)	Convection path length, L <sub>p</sub> (cm)	Source vapor conc., C <sub>source</sub> (µg/m³)	Crack radius, Foreck (cm)	Average vapor flow rate into bldg., Q <sub>soil</sub> (cm <sup>6</sup> /s)	Crack effective diffusion coefficient, D <sup>crack</sup> (cm²/s)	Area of crack, Acnox (cm²)	Exponent of equivalent foundation Peclet number, exp(Pe <sup>5</sup> ) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg, conc., C <sub>building</sub> (µg/m³)	Unit risk factor, URF (µg/m³) <sup>-1</sup>	Reference conc., RfC (mg/m³)
1112.76	15	6.40E+03	1.25	8.33E+01	5.85E-03	5.00E+03	2.36E+12	4.51E-06	2.88E-02	NA	1.0E+00

DTSC / HERD Last Update: 11/1/03

# RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

# INCREMENTAL RISK CALCULATIONS:

Indoor exposure groundwater conc., carcinogen (µg/L)	Indoor exposure groundwater conc., noncarcinogen (µg/L)	Risk-based indoor exposure groundwater conc., (µg/L)	Pure component water solubility, S (µg/L)	Final Indoor exposure groundwater conc. (µg/L)
NA	. NA	NA.	1.69E+05	NA

Incremental	Hazard
risk from	quotient
Varpor	from vapor
intrusion to	intrusion to
indoor air,	indoor air,
carcinogen	noncarcinogen
(unitless)	(unitless)
. NA	1 6F-05

MESSAGE SUMMARY BELOW:

GW-SCREEN ersion 3.0; 04/03		YES	OR	ATION (enter "X" in "YI		DTSC Vapor Intrusion G Interim Final 12/0- (last modified 1/21	4
Defaults	CALCULATE INCRE (enter "X" in "YES" t			OUNDWATER CONCE! )	NTHATION		
		YES	Х				
	ENTER	ENTER					
	Chemical	initial groundwater					
	CAS No.	conc.,					
	(numbers only,	Cw		00			
	no dashes)	(µg/L)	Cł	hemical	_		
	98828	1.29E+02	С	unjene			
F-0-1-1	ENTER	ENTER	ENTER	ENTER			
MORE	Depth below grade			Average		ENTER	
	to bottom	Depth		eoil/		Average vapor	
	of enclosed	below grade	SCS	groundwater		flow rate into bidg.	
	space floor,	to water table,	eoll type	temperature,	(Lee	ave blank to calcula	ate)
	L <sub>F</sub>	LWIT	directly above	Tg		Q <sub>sol</sub>	
	(em)	(cm)	water table	(°C)		(L/m)	
	15	1127.76	SIC	24	]	5	
MORE +	ENTER Vadose zone	1127.76	ENTER User-defined	ENTER	ENTER	ENTER	ENTER
	ENTER Vadose zone SCS	1127.76	ENTER User-defined vandose zone	ENTER Vadose zone	Vadose zone	ENTER Vadose zone	Vadose zon
	ENTER Vadose zone SCS soil type		ENTER User-defined vandose zone soil vapo:	ENTER Vadose zone SCS	Vadose zone soil dry	ENTER Vadose zone soil total	Vadose zon soil water-fill
	ENTER Vadose zone SCS soil type (used to estimate	1127.76 OR	ENTER User-defined vandose zone soil vapor permeability,	ENTER Vadose zone SOS soil type	Vadose zone soil dry bulk density,	ENTER Vadose zone soil total porosity,	Vadose zon soil water-fill perosity.
	ENTER Vadose zone SCS soil type		ENTER User-defined vandose zone soil vapo:	ENTER Vadose zone SCS	Vadose zone soil dry	ENTER Vadose zone soil total	Vadose zon soil water-fill
	ENTER Vadose zone SCS soil type (used to estimate soil vapor		ENTER User-defined vandose zone soil vapor petraebility,	ENTER Vadose zone SCS soil type Lookap Soil	Vadose zone soil dry bulk density, Pb <sup>V</sup>	ENTER Vadose zone soil total porosity, n <sup>V</sup>	Vadose zon soil water-fill perosity, a,v
	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)		ENTER User-defined vandose zone soil vapor petraebility,	ENTER Vadose zone SOS soil type Lookup Soil Peremeters	Vadose zone soil dry bulk density, Pb <sup>V</sup> (g/cm²)	ENTER Vadose zone soil total peresity, n (unitless)	Vadose zon soil water-fille perosity. 8, <sup>V</sup> (cm³/cm³)
More	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)  SIC  ENTER Target risk for caroinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THO (unit(ess))	ENTER User-defined vandose zone soil vapor permeability, k, (cm²)  ENTER Averaging time for careinogens, AT <sub>G</sub> (yts)	ENTER Vadose zone SCS Soil type Lockup Soil Perameters  SIC  ENTER Averaging Itms for noncarcinogens, ATNC (yrs)	Vadose zone soil dry bulk density, pb (g/cm²)  1.5  ENTER  Exposure durenon, ED (yrs)	ENTER Vadose zone soil total porosity, n (unitless)  0.43  ENTER Exposure fraquency, EF (days/yr)	Vadose zon soil water-fill perosity, a,, <sup>V</sup> (cm <sup>3</sup> /cm <sup>3</sup> )
More	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for carolinogens, TR	ENTER Target hazard quotient for noncarotinogens, THO	ENTER User-defined vandose zone soil vapor permeability, k, (crrr²)  ENTER Averaging time for carsinogens, ATa	ENTER Vadose zone SCS soil type Losap Soil Perameters SIC  ENTER Averaging Time for noncatoinogens, ATNo	Vadose zone soil dry bulk density, $p_b^{V}$ (g/cm²).  1.5  ENTER  Exposure durenion, ED	ENTER Vadose zone soil total portosity, n <sup>V</sup> (unitless)  0.43  ENTER Exposure fraquency, EF	Vadose zon soil water-fill perosity, a <sub>x</sub> , <sup>V</sup> (cm <sup>3</sup> /cm <sup>3</sup> )

ABC  Diffusivity in air,	Diffusivity in water,	Henry's law constant at reference temperature,	Henry's law constant reference temperature,	Enthalpy of vaporization at the normal boiling point,	Normal boiling point,	Critical temperature,	Organic carbon partition coefficient,	Pure component water solubility,	Unit risk factor,	Reference conc.,
$D_a$	D₩	Н	$T_R$	$\Delta H_{v,b}$	TB	$T_{\mathbf{c}}$	K₀c	S	URF	RfC
(cm²/s)	(cm²/s)	(atm-m³/mol)	(°C)	(cal/mol)	(°K)	(°K)	(cm³/g)	(mg/L)	(µg/ <b>m</b> ³) <sup>-1</sup>	(mg/ <b>m</b> <sup>3</sup> )
6.50E-02	7.10E-06	1.16E+00	25	10,335	425.56	631.10	4.89E+02	6.13E+01	0.0E+00	4.0E-01

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_a^{\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	Vadose zone effective total fluid saturation, Ste (cm³/cm³)	Vadose zone soil intrinsic permeability, k (cm²)	Vadose zone soil relative air permeability, k <sub>rg</sub> (cm <sup>2</sup> )	Vadose zone soil effective vapor permeability, k, (cm²)	Thickness of capillary zone, L <sub>cz</sub> (cm)	Total porosity in capillary zone, n <sub>oz</sub> (cm³/cm³)	Air-filled porosity in capillary zone, e <sub>a,cz</sub> (cm³/cm³)	Water-filled porosity in capillary zone, 6 <sub>w,cz</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Floor- wall seam perimeter, X <sub>crack</sub> (cm)	
1112.76	0.280	0.122	1.52E-09	0.937	1.42E-09	192.31	0,481	0.057	0.424	4,000	
							,			<del></del>	,
Bldg. ventilation rate, Q <sub>bullding</sub> (cm³/s)	Area of enclosed space below grade, AB (cm²)	Crack- to-total area ratio, n (unitless)	Crack depth below grade, Z <sub>orack</sub> (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at awe. groundwater temperature, H <sub>TS</sub> (atm-m³/mol)	Henry's law constant at ave. groundwater temperature, H' <sub>TS</sub> (unitless)	Vapor viscosity at ave. soil temperature,  µ <sub>TS</sub> (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>eff</sup> v (cm²/s)	Capillary zone effective diffusion coefficient, D <sup>aff</sup> <sub>cz</sub> (cm²/s)	Total overall effective diffusion coefficient, D <sup>eff</sup> <sub>T</sub> (cm <sup>2</sup> /s)	
3.39E+04	1.00E+06	5.00E-03	15	12,447	1,08E+00	4.42E+01	1.80E-04	5.07 <b>E-</b> 03	2.07E-05	1.17E-04	Ī
Diffusion path length, L <sub>d</sub> (cm)	Convection path length,	Source vapor conc., C <sub>source</sub> (µg/m³)	Crack radius, r <sub>orsok</sub> (cm)	Average vapor flow rate into bldg., Q <sub>sol</sub> (cm <sup>3</sup> /s)	Crack effective diffusion coefficient, D <sup>orack</sup> (cm <sup>2</sup> /s)	Area of crack, A <sub>crack</sub> (cm <sup>2</sup> )	Exponent of equivalent foundation Peclet number, exp(Pef) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., C <sub>building</sub> (µg/m³)	Unit risk factor, URF (μg/m³) <sup>-1</sup>	Reference conc., RtC (mg/m³)
1112.76	15	5,72E+06	1.25	8.33E+01	5.07E-03	5.00E+03	1.89E+14	3.11E-06	1.78E+01	NA NA	4.0E-01

DTSC / HERD Last Update: 11/1/03

# RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

# INCREMENTAL RISK CALCULATIONS:

(μg/L) NA	(µg/L)	(µg/L)	(µg/L) 6.13E+04	(μg/L) NA
conc.,	conc.,	groundwater	solubility,	groundwater
carcinogen	noncarcinogen	conc.,	S	conc.,
Indoor	Indoor	Risk-based	Pure	Final
exposure	exposure	indoor	component	indoor
groundwater	groundwater	exposure	water	exposure

NA	2.5E-02
(unitless)	(unitless)
carcinogen	noncarcinogen
indoor air,	indoor air,
intrusion to	intrusion to
Vapor	from vapor
risk from	quotient
Incremental	Hazard

MESSAGE SUMMARY BELOW:

GW-SCREEN Version 3.0; 04/03  Reset to Defaults		YES EMENTAL RISKS Floor and Initial groun	OR ROM ACTUAL GRO	ATION (enter "X" in "Yi UNDWATER CONCEN		DTSC Vapor Intrusion 6 Interim Final 12/0 (last modified 1/21	4
	ENTER Chemical OAS No. (numbers only, no dashes)	YES  ENTER Initial groundwater cone., Cw (µg/L)	c	nemical	_		
	1634044	8.00E+00	1	MTBE			
MORE	ENTER Depth below grade to bottom of enclosed space floor, Lr (cm)	ENTER  Depth below grade to water table, L <sub>WT</sub> (cm)	SCS soil type directly above water table	ENTER  Average soil/ groundwater temperature, Is (°C)		ENTER Average vapor flow rate into bldg, ave blank to calcula  Q <sub>sol</sub> (L/m)	stire}
	15	1127.76	sio	24	]	5	
MORE +	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	CR	ENTER User-defined vandose zone soil vapor permeability, k, (cm²)	ENTER Vedose zone SCS soli type Lockep Soli Peremeters	ENTER Vadose zone soil dry bulk density, Pb <sup>Y</sup> (g/cm <sup>2</sup> )	ENTER Vadose zone soil total porosity, n (unitiess)	ENTER Vadose zone soil water-fille porosity, 6,* (cm³/cm³)
	SIC			aic	1.5	0.43	0.15
MORE	ENTER Target risk for carcinogens, TH (unitless)	ENTER Target hazard quotient for noncaroinogens, THQ (unitless)	ENTER Averaging time for carpinogens, ATc	ENTER Averaging time for noncareinogene, ATNO	EXTER Exposure duration, ED (vrs)	ENTER Exposure frequency, EF (days/yr)	
	Target risk for carcinogens, TH (unit(ess)	Target hezard quotient for noncaroïnogens, THQ (unitless)	Averaging time for cardinogens, AT <sub>C</sub> (yrs)	Averaging time for noncarcinogens, AT <sub>NC</sub> (yrs)	Exposure duration, ED (yrs)	Exposure frequency, EF (days/yr)	
	Terget risk for carcinogens, TH	Target hezard quotient for noncaroïnogens, THQ	Averaging time for carpinogens, AT <sub>C</sub>	Averaging time for noncaroinogene, AT <sub>NC</sub>	Exposure duration, ED	Exposure frequency, EF	

ABC  Diffusivity in air,  D <sub>a</sub> (cm <sup>2</sup> /s)	Diffusivity in water, D <sub>w</sub> (cm <sup>2</sup> /s)	Henry's law constant at reference temperature, H (atm-m³/mol)	Henry's law constant reference temperature, T <sub>ff</sub> (°C)	Enthalpy of vaporization at the normal boiling point, AH <sub>Vb</sub> (cal/mol)	Normal bolling point, T <sub>3</sub>	Criffical temperature, T <sub>C</sub> (°K)	Organic carbon partition coefficient, K <sub>cc</sub> (can <sup>3</sup> /g)	Pure component water solubility, S (mg/L)	Unit risk factor, URF (µg/m³)-1	Reference conc., RfC (mg/m³)
1.02E-01	1,05E-05	6.23E-04	25	6,678	328,30	497.10	7,26E+00	5,10E+04	2.6E-07	3,0E+00

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_a^{\ V}$ (cm <sup>3</sup> /cm <sup>3</sup> )	Vadose zone effective total fluid saturation, Ste (cm <sup>3</sup> /cm <sup>3</sup> )	Vadose zone soil intrinsic permeability, k (cm²)	Vadose zone soil relative air permeability, k <sub>u</sub> (crn²)	Vadose zone soil effective vapor permeability, k <sub>y</sub> (cm <sup>2</sup> )	Thickness of capillary zone, L <sub>cz</sub> (cm)	Total porosity in capillary zone, n <sub>ez</sub> (crn <sup>3</sup> /cm <sup>3</sup> )	Air-filled porosity in capillary zone, $\theta_{a,cz}$ (cm <sup>3</sup> /cm <sup>3</sup> )	Water-filled porosity in capillary zone, θ <sub>w.cz</sub> (cm³/cm³)	Floor- wall seam perimeter, X <sub>crack</sub> (cm)	4
1112.76	0.280	0.122	1.52E-09	0.937	1.42E-09	192,31	0.481	0.057	0.424	4,000	]
Bldg. ventilation rate, O <sub>building</sub> (cm³/s)	Area of enclosed space below grade, A <sub>B</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, n (unitless)	Crack depth below grade, Z <sub>crack</sub> (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. groundwater temperature, H <sub>TS</sub> (atm-m³/mol)	Henry's law constant at ave. groundwater temperature, H' <sub>TS</sub> (unitless)	Vapor viscosity at ave. soil temperature,  µ <sub>TS</sub> (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>eff</sup> v (cm²/s)	Capillary zone effective diffusion coefficient, D <sup>eff</sup> <sub>cz</sub> (cm²/s)	Total overall effective diffusion coefficient, D <sup>eff</sup> <sub>T</sub> (cm <sup>2</sup> /s)	
3.39E+04	1.00E+06	5.00E-03	15	7,113	5.99E-04	2.46E-02	1,80E-04	7.99E-03	1.38E-04	7.39E-04	
Diffusion path length, L <sub>d</sub> (cm)	Convection path length, L <sub>p</sub> (cm)	Source vapor conc., C <sub>source</sub> (µg/m³)	Crack radius, r <sub>orack</sub> (cm)	Average vapor flow rate into bldg., Q <sub>soil</sub> (cm <sup>3</sup> /s)	Crack effective diffusion coefficient, D <sup>crack</sup> (cm <sup>2</sup> /s)	Area of crack, A <sub>orack</sub> (cm²)	Exponent of equivalent foundation Peclet number, exp(Pe <sup>I</sup> ) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., C <sub>buiding</sub> (µg/m³)	Unit risk factor, URF (µg/m³) <sup>-1</sup>	Reference conc., RfC (mg/m³)
1112.76	15	1.96E+02	1.25	8.33E+01	7.99E-03	5.00E+03	1.14E+09	1.95E-05	3,82E-03	2.6E-07	3,0E+00

DTSC / HERD Last Update; 11/1/03

# RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

# INCREMENTAL RISK CALCULATIONS;

Hazard

quotient

1

Indoor exposure groundwater conc., carcinogen (µg/L)	exposure exposure roundwater groundwater conc., conc., arcinogen noncarcinogen		Pure component water solubility, S (µg/L)	Final indoor exposure groundwater conc., (µg/L)		
NA	NA NA	NA	5.10E+07	NA		

45	thoi	troni vapor
intru	sion to	intrusion to
indo	or air,	indoor air,
carc	inogen	noncarcinogen
(uni	tless)	(unitless)
		A. 7997
2.4	E-10	7.3E-07

Incremental

risk from

MESSAGE SUMMARY BELOW:

Version 3.0; 04/03	CALCULATE FIRE	Based Groundy Yes		VATION (ender "X" in "Y	ES" box	DTSC Vapor Intrusion 6 Interim Final 12/0	4
Defaults	CALCULATE INCRE			UNDWATER CONCER	NTRATION	(last modified 1/21	(/05)
		YES	X				
	ENTER	ENTER Initial					
	Chemical	groundwater					
	CAS No.	conc.,					
	(numbers only, no deshes)	C <sub>W</sub> (µg/L)	G	hemical			
					_		
	91203	4.41E+01	Nap	ohthalene			
MORE	ENTER Depth	ENTER	ENTER	ENTER			
Ψ	below grade			Average		ENTER	
	to bottom	Depth		Vios		Average vapor	
	of enclosed space floor,	below grade to water table,	SCS soil type	groundwater		flow rate into bidg.	
	L <sub>F</sub>	Lwi	directly above	temperature, $T_3$	(La	ave blank to calcula Q <sub>cil</sub>	100)
	(om)	(cm)	water table	(°C)		(L/m)	
		10117	Truis Table		_	(5/11)	
	15	1127.76	SIC	24		5	
MORE							
<u></u>	ENTER Vadose zone SCS scill type (used to estimate soil vapor pormeability)	OR	ENTER User-defined vandose zone soil vapor permeability, k, (cm²)	ENTER Vadose zone SCS soil type Loolop Sof Parameters	ENTER Vacose zone soil dry bulk density, p <sub>b</sub> <sup>V</sup> (g/om <sup>2</sup> )	ENTER Vadose zone soil total porosity, a <sup>V</sup> (unitless)	
	Vadose zone SCS soil type (used to estimate soil vapor	ÖR .	User-defined vandose zone soil vapor permeability, k,	Vadose zone SCS soil type Lookup Soil	Vadose zone soil dry bulk density, pbV	Vadose zone soil total porosity, o <sup>V</sup>	Vadose zon soil water-filli porosity, 9,2
	Vadose zone SCS scil type (used to estimate soil vapor permeability)	ENTER Target hazard quotient for nonearchogens, THQ (unitless)	User-defined vandose zone soil vapor permeability, k,	Vadose zone SCS soil type Lodup soil Parameters SIC  ENTER Averaging time for nonoarcinogens, ATN:	Vadose zone soil dry bulk density, pb (g/om²)  1.5  ENTER Exposure duration, ED	Vadose zone soil total porosity, n (unitless)  0.43  ENTER Exposure frequency, EF	Vadose zon soli water-fill porosity, 9,, <sup>V</sup> (om <sup>3</sup> /om <sup>3</sup> )
₩ORE	Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for parcinogens, TR	ENTER Target hazard quotient for nonoactinogens, THQ	User-defined vandose zone soil vapor permeability, k, (cm²)  ENTER Averaging lime for caroinogens, AT <sub>0</sub>	Vadose zone SCS soil type Lodop Scd Parametero SIC  ENTER Averaging time for noncarcinogens,	Vadose zone soil dry bulk density, pb (g/em²)  1.S  ENTER  Exposure duration,	Vadose zone soil total porosity, n (unitless)  0.43  ENTER Exposure frequency,	Vadose zon soli water-filli porosity, 9,, <sup>V</sup> (om <sup>3</sup> /om <sup>3</sup> )

ABC										
		Henry's Iaw constant	Henry's law constant	Enthalpy of vaporization at	Normal		Organic carbon	Pure component	Unit	
Diffusivity	Diffusivity	at reference	reference	the normal	boiling	Critical	partition	water	risk	Reference
in air,	in water,	temperature,	temperature,	boiling point,	point,	temperature,	coefficient,	solubility,	factor,	conc.,
$D_a$	$D_w$	H	T <sub>B</sub>	$\Delta H_{v,b}$	$T_B$	$T_G$	K <sub>oo</sub>	S	URF	RfC
(cm²/s)	(cm²/s)	(atm-m <sup>a</sup> /mol)	(°C)	(cal/mol)	(°K)	(°K)	(cm <sup>3</sup> /g)	(mg/L)	(μg/m³) <sup>-1</sup>	(mg/m³)
										· · · ·
5.90E-02	7.50E-06	4.82E-04	25	10,373	491.14	748.40	2.00E+03	3.10E+01	3.4E-05	3.0E-03

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_a^V$ $(cm^3/cm^3)$	Vadose zone effective total fluid saturation, Ste (cm³/cm³)	Vadose zone soil intrinsic permeability, k; (cm²)	Vadose zone soil relative air permeability, k <sub>g</sub> (cm²)	Vadose zone soil effective vapor permeability, k, (cm²)	Thickness of capillary zone, L <sub>ox</sub> (cm)	Total porosity in capillary zone, n <sub>oz</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Air-filled porosity in capillary zone, θ <sub>a,oz</sub> (cm³/cm³)	Water-filled porosity in capillary zone, $\theta_{w,oz}$ (cm <sup>3</sup> /cm <sup>3</sup> )	Floor- wall seam perimeter, X <sub>orack</sub> (cm)	
1112.76	0.280	0.122	1.52E-09	0.937	1.42E-09	192.31	0.481	0.057	0.424	4,000	
Bldg. ventilation rate, Q <sub>bullding</sub> (cm³/s)	Area of enclosed space below grade, A <sub>B</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, η (unitless)	Crack depth below grade, Z <sub>crack</sub> (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. groundwater temperature, H <sub>TS</sub> (atm-m³/mol)	Henry's law constant at ave, groundwater temperalure, H' <sub>TS</sub> (unitless)	Vapor viscosity at ave. soil temperalure,	Vadose zone effective diffusion coefficient, D <sup>eff</sup> v (cm²/s)	Capillary zone effective diffusion coefficient, D <sup>eff</sup> <sub>oz</sub> (cm <sup>2</sup> /s)	Total overall effective diffusion coefficient, D <sup>eff</sup> T (cm <sup>2</sup> /s)	s.
3,39E+04	1.00E+06	5.00E-03	15	12,768	4.48E-04	1.84E-02	1.80E-04	4.61E-03	1.20E-04	6.16E-04	
Diffusion path length,	Convection path length,	Source vapor conc., C <sub>source</sub>	Crack radius, <sup>r</sup> orack	Average vapor flow rate into bldg.,  Q <sub>soil</sub>	Crack effective diffusion coefficient, D <sup>orack</sup>	Area of crack,	Exponent of equivalent foundation Peclet number, exp(Pef)	Infinite source indoor attenuation coefficient,	Infinite source bldg. conc.,	Unit risk factor, URF	Reference conc.,
(cm)	(cm)	(µg/m³)	(cm)	(cm <sup>3</sup> /s)	(cm²/s)	(cm²)	(unitless)	(unitless)	(μg/m³)	(μg/m³) <sup>-1</sup>	(mg/m³)
1112.76	15	8.10E+02	1.25	8.33E+01	4.61E-03	5.00E+03	5.18E+15	1.62E-05	1.32E-02	3.4E-05	3.0E-03

DTSC / HERD Last Update: 11/1/03

RESULTS SHEET

# RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

# INCREMENTAL RISK CALCULATIONS:

gro	Indoor exposure oundwater conc., arcinogen (µg/L)	Indoor exposure groundwaler conc noncarcinogen (µg/L)	Risk-based indoor exposure groundwater conc., (µg/L)	Pure component water solubility, S (µg/L)	Final indeor exposure groundwater conc., (µg/L)
	NA	NA NA	NA.	3.10E+04	NA

Incremental	Hazard
risk from	quotient
vapor	from vapor
intrusion to	intrusion to
indoor air,	indoor air,
carcinogen	noncarcinogen
(unitless)	(unitless)
1.1E-07	2.5E-03

MESSAGE SUMMARY BELOW:

GW-SCREEN Version 3.0; 04/03 Reset to Defaults		YES	OR	RATION (enter "X" in ") DUNDWATER CONCE		DTSC Vapor Intrusion G Interim Final 12/04 (last modified 1/21.	L
	(enter "X" In "YES" h						
		YES	Х				
	ENTER	ENTER					
	Chemical CAS No. (numbers only,	Initial groundwater conc.,					
	no dashes)	(irê\r) Ç₩		Chemical			
	95476	2.60E+00		-Xylene	1		
	ENTER	ENTER	ENTER	ENTER			
MORE 4	Depth below grade to bottom of enclosed space floor, L <sub>F</sub> (cm)	Depth below grade to water table, LWT (ern)	SCS soil type directly above water table	Average soil/ groundwater temperature, Ts (°C)		ENTER Average vapor flow rate into bldg. ave blank to calcula Q <sub>er0</sub> (L/m)	oke)
	15	1127.76	SIC	24		5	
MORE	ENTER Vadose zone SOS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapor permeability, (v. (om²)	ENTER Vadose zone SCS soil type Loday Soil Parameters	ENTER Vadose zone soil dry bulk denarty, Pb (g/om²)	ENTER Vadose zone soil total porosity, n <sup>V</sup> (unitless)	ENTER Vadose zone soll water-filled ponosity, $\theta_w^V$ $(cm^0/cm^3)$
	SIC	b		SIC	1.5	0.43	0.15
MORE 4	ENTER Target risk for caroinogena, TH (unitless)	ENTER Target hazard quotient for noncarcinogens, THO (unitiess)	ENTER Averaging time for caroinogens, A7c (yrs)	ENTER Averaging time for noncarcinogens, ATixc (yrs)	ENTER Exposure duration, ED (yrs)	ENTER  Exposure frequency, EF (days/yr)	
	1.00-06	1	70	30	25	250	
	Used to calcula groundwater c						

ABC  Diffusivity in air,  D <sub>a</sub> (cm <sup>2</sup> /s)	Diffusivity in water, D <sub>w</sub> (cm <sup>2</sup> /s)	Henry's law constant at reference temperature, H (atm-m <sup>3</sup> /mot)	Henry's law constant reference temperature, T <sub>R</sub>	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normat boiling point, T <sub>B</sub>	Critical temperature, T <sub>C</sub> (°K)	Organic carbon partition coefficient, $K_{\infty}$ (cm <sup>3</sup> /g)	Pure component water solubility, S (mg/L)	Unit risk factor, URF (µg/m <sup>3</sup> ) <sup>-1</sup>	Reference conc., RfC (mg/m <sup>3</sup> )
(0111 75)	(011179)	(Euri-III /IIIOI)	( )	(Gai/IIIOI)	1 19	(19	(6111.79)	(IIIg/L)	(µg/m)	(mg/m)
		·								
8.70E-02	1.00E-05	5.18E-03	25	8,661	417.60	630.30	3.63E+02	1.78E+02	0.0E+00	1.0E-01

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, e <sub>a</sub> <sup>V</sup> (cm³/cm³)	Vadose zone effective total fluid saturation, S <sub>te</sub> (cm <sup>2</sup> /cm <sup>3</sup> )	Vadose zone soil intrinsic permeability, k <sub>i</sub> (cm²)	Vadose zone soil relative air permeability, k <sub>e</sub> (cm²)	Vadose zone soil effective vapor permeability, k, (cm²)	Thickness of capillary zone, L <sub>oz</sub> (cm)	Total porosity in capillary zone, n <sub>cz</sub> (cm³/cm³)	Air-filled porosity in capillary zone, θ <sub>a,pz</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Water-filled porosity in capillary zone, $\theta_{w\rho z}$ (cm³/cm³)	Floor- walt seam perimeter, X <sub>crack</sub> (cm)	_
1112.76	0.280	0.122	1.52E-09	0.937	1.42E-09	192.31	0.481	0,057	0.424	4,000	]
Bldg. ventilation rate, Q <sub>building</sub> (cm³/s)	Area of enclosed space below grade, A <sub>B</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, η (unitless)	Crack depth below grade, Z <sub>crack</sub> (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v, TS}$ (cal/mol)	Henry's law constant at ave. groundwater temperature, H <sub>TS</sub> (atm-m <sup>3</sup> /mol)	Henry's law constant at ave. groundwater temperature, H' <sub>TS</sub> (unitless)	Vapor viscosity at ave. soil temperature,	Vadose zone effective diffusion coeffucient, D <sup>eff</sup> v (cm²/s)	Capillary zone effective diffusion coefficient, D <sup>eff</sup> oz (cm <sup>2</sup> /s)	Total overall effective diffusion coefficient, D <sup>eff</sup> T (cm <sup>2</sup> /s)	=
3.39E+04	1.00E+06	5.00E-03	15	10,245	4.88E-03	2.00E-01	1,80E-04	6.79E-03	4.00E-05	2.25E-04	1
Diffusion path length, L <sub>d</sub> (cm)	Convection path length, L <sub>p</sub> (cm)	Source vapor conc., C <sub>source</sub> (µg/m³)	Crack radius, r <sub>orack</sub> (cm)	Average vapor flow rate into bldg., Q <sub>soil</sub> (cm <sup>3</sup> /s)	Crack effective diffusion coefficient, D <sup>orack</sup> (cm <sup>2</sup> /s)	Area of crack, A <sub>crack</sub> (cm <sup>2</sup> )	Exponent of equivalent foundation Peclet number, exp(Pe <sup>f</sup> ) (unitless)	Infinite source indoor attenuation coefficient, α (uniffess)	Infinite source bidg. conc., C <sub>building</sub> (µg/m³)	Unit risk factor, URF (ug/m³) <sup>1</sup>	Reference conc., RtC (mg/m³)
1112.76	15	5.21E+02	1.25	8.33E+01	6.79E-03	5.00E+03	4.63E+10	5,95E-06	3.10E-03	NA	1.0E-01

RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

INCREMENTAL RISK CALCULATIONS:

$(\alpha \alpha A)$ $(\mu \alpha A)$ $(\mu \alpha A)$ $(\mu \alpha A)$	Indoor exposure groundwater conc., carcinogen	Indoor exposure groundwater conc., noncarcinogen	Risk-based indoor exposure groundwater conc.,	Pure component water solubility S	Final indoor exposure groundwater conc.,
	(µg/L)	(μg/L)	(μg/L)	(μg/L)	(µg/L)
	NA	NA NA	NA	1.78E+05	NA.

Incremental	Hazard
risk from	quotient
vapor	from vapor
intrusion to	intrusion to
indoor air,	indoor air,
carcinogen	noncarcinogen
(unitless)	(unitless)
NA	1 8F-05

MESSAGE SUMMARY BELOW:

Version 3,0; 04/03	CALCULATE RISK	PASED GROUNDY YES	VATER CONCENT	RATION (enter "X" in "Y	ES box)	DTSC Vapor Intrusion 6 Interim Final 12/0	
Reset to Defaults	CALCULATE INCRI			DUNDWATER CONCE	NTRATION	(læt modified 1/21	( <i>F</i> 05)
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	YE\$	X	,			
	ENTER Chemical	ENTER Initial					
	CAS No.	groundwater conc.,					
	(numbers only,	C <sub>W</sub>					
	no dashes)	(μg/L)	Ç	hemical	***		
	103651	5,00E+01	n-Pro	pylbenzene	1		
MORE	ENTER Depth	ENTER	ENTER	ENTER			
4	below grade	Dt		Average		ENTER	
	to bottom of enclosed	Depth below grade	SCS	eoil/ groundwater		Average vapor flow rate into bldg.	
	space floor,	to weter table,	soli type	temperature,		ave blank to calout	
	Lr	L <sub>WY</sub>	directly above	Ta		Q <sub>ed</sub>	·
	(em)	(orn)	water lable	(%)	_	(L/m)	
	15	1127.76	SIC	24	- I		
		1127.76	SIU	24		5	
MORE ↓	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined vandose zone soil vapou perneability, k (om <sup>5</sup> )	ENTER Vadose zone SCS soil type Lookup Soil Parameters	ENTER Vadose zone soil dry bulk density, p-y (g/om <sup>9</sup> )	ENTER Vadose zone soît total porosity, n <sup>V</sup> (unitless)	
	ENTER Vadose zone SCS soil type {used to estimate soil vapor		ENTER User-defined vandose zone seil vapor permeability, k <sub>v</sub>	ENTER Vadose zone SCS soil type Lookup Soi	Vadose zone soil dry bulk density, PbV	ENTER Vadose zone soli total porosity, n.V	Vadose zon soil water-fill porosity, $\theta_w^V$
	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability) StC  ENTER Target risk for caroinogens, TR	ENTER Target hazard quotient for noncarcinogens, THQ	ENTER User-defined vandose zone soil vapour permeability, k <sub>v</sub> (orn <sup>o</sup> )  ENTER Averaging time for caroinogens, AT <sub>o</sub>	ENTER Vadose zone SCS soil type Lockup Soil Parameters StiC  ENTER Averaging time for noncarainogens, AT <sub>NC</sub>	Vadose zone soil dry bulk density, Ph (g/orm)  1.5  ENTER Exposure duration, ED	ENTER Vadose zone soft total porosity, n <sup>y</sup> (unitless)  Q.43  ENTER Exposure frequency, EF	Vadose zon soil water-fill porosity, 0,, <sup>V</sup> {cm <sup>2</sup> /cm <sup>2</sup> }
MORE	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)  SIC  ENTER Target risk for caroinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)	ENTER User-defined vandose zone soil vapor permeability, k <sub>v</sub> (err. <sup>o</sup> )  ENTER Averaging time for caroinogens, AT <sub>o</sub> (yrs)	ENTER Vadose zone SCS soil type Lockup Soil Parameters  SIG  ENTER Averaging time for noncarcinogens, AT <sub>NC</sub> (yrs)	Vadose zone soil dry bulk density, Ph Vadose Zone (g/orn <sup>3</sup> )  1.5  ENTER  Exposure duration, ED (yrs)	ENTER Vadose zone soît total porosity, n (unitless)  0.43  ENTER Exposure frequency, EF (days/yr)	Vadose zon soil water-fill porosity, 0,, <sup>V</sup> {cm <sup>2</sup> /cm <sup>2</sup> }
MORE	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability) StC  ENTER Target risk for caroinogens, TR	ENTER Target hazard quotient for noncarcinogens, THQ	ENTER User-defined vandose zone soil vapour permeability, k <sub>v</sub> (orn <sup>o</sup> )  ENTER Averaging time for caroinogens, AT <sub>o</sub>	ENTER Vadose zone SCS soil type Lockup Soil Parameters StiC  ENTER Averaging time for noncarainogens, AT <sub>NC</sub>	Vadose zone soil dry bulk density, Ph (g/orm)  1.5  ENTER Exposure duration, ED	ENTER Vadose zone soft total porosity, n <sup>y</sup> (unitless)  Q.43  ENTER Exposure frequency, EF	Vadose zon soil water-fill porosity, 0,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

ABC  Diffusivity Diffusivin air, in wate  Da D <sub>a</sub>	,	Henry's law constant reference temperature, T <sub>R</sub>	Enthalpy of vaporization at the normal boiling point, $\Delta H_{vb}$	Normal boiling point, T <sub>B</sub>	Critical temperature, $T_{\rm C}$	Organic carbon partition coefficient, K∞	Pure component water solubility, S	Unit risk factor, URF	Reference conc., RfC
(cm²/s) (cm²/s	s) (atm-m³/mol)	(°C)	(cal/mol)	(°K)	(°K)	(cm³/g)	(mg/L)	(µg/m³) <sup>-1</sup>	(mg/m³)
6.01E-02 7.83E-	06   1.07E-02	25	9,123	432.20	630.00	5.62E+02	6.00E+01	0.0E+00	1.4E-01

Source-	Vadose zone soil	Vadose zone effective	Vadose zone soil	Vadose zone soil	Vadose zone soil	Thickness of	Total porosity in	Air-filled porosity in	Water-filled porosity in	Floor- wali	
building	air-filled	total fluid	intrinsic	relative air	effective vapor	capillary	capillary	capillary	capillary	seam	
separation,	porosity,	saturation,	permeability,	permeability,	permeability,	zone,	zone,	zone,	zone,	perimeter.	
	$\theta_a^{V}$	S <sub>le</sub>	k	• • • • • • • • • • • • • • • • • • • •	K,	•	•	•		•	
L <sub>T</sub>			· · · · · · · · · · · · · · · · · · ·	K <sub>rg</sub>	•	$L_{cz}$	n <sub>cz</sub>	$\theta_{a,cz}$	9 <sub>w,cz</sub>	X <sub>creck</sub>	
(cm)	(cm³/cm³)	(cm³/cm³)	(cm²)	(cm²)	(cm²)	(cm)	(cm³/cm³)	(cm³/cm³)	(cm³/cm³)	(cm)	=
1110 70		1 2 422 1	4.505.00								т
1112.76	0.280	0.122	1.52E-09	0.937	1.42E-09	192.31	0.481	0,057	0.424	4,000	]
	Area of								Capillary	Total	
	enclosed	Crack-	Crack	Enthalpy of	Henry's law	Henry's law	Vарог	Vadose zone	zone	overali	
Bldg.	space	to-total	depth	vaporization at	constant at	constant at	viscosity at	effective	effective	effective	
ventilation	below	area	below	ave. groundwater	ave. groundwater	ave. groundwater	ave, soil	diffusion	diffusion	diffusion	
rate.	grade,	ratio,	grade,	temperature,	temperature,	temperature.	temperature,	coefficient.	coefficient,	coefficient,	
	•	•	•		• '			D <sup>eff</sup> v	D <sup>eff</sup> cz	D <sup>eff</sup> T	
Quilding	A <sub>B</sub>	η	Z <sub>crack</sub>	$\Delta H_{v,TS}$	H <sub>TS</sub>	H' <sub>TS</sub>	$\mu_{TS}$	•			
(cm³/s)	(cm²)	(unitless)	(cm)	(cal/mol)	(atm-m³/mol)	(unitless)	(g/cm-s)	(cm²/s)	(cm²/s)	(cm²/s)	=
3.39E+04	1.00E+06	5,00E-03	15	11,186	1.00E-02	4.10E-01	1.80E-04	4.69E-03	2.38E-05	1.34E-04	1
3.39L+04	1.00-+00	0.00L-03		11,100	1.00L-02	4.100-01	1.00=04	4.09E-03	Z.30E-03	1.345-04	J
							Exponent of	Infinite			
				Average	Crack		equivalent	source	Infinite		
Diffusion	Convection	Source		vapor	effective		foundation	indoor	source	Unit	
path	path	vapor	Crack	flow rate	diff <b>u</b> sion	Area of	Peclet	attenuation	bldg.	risk	Reference
length,	iength,	conc.,	radius,	into bldg.,	coefficient,	crack,	number,	coefficient,	conc.,	factor,	conc.,
$L_d$	L <sub>p</sub>	C <sub>source</sub>	r <sub>crack</sub>	$Q_{soil}$	D <sup>orack</sup>	A <sub>crack</sub>	exp(Pe <sup>f</sup> )	α	Chuilding	URF	RfC
(cm)	(cm)	(µg/m³)	(cm)	(cm³/s)	(cm²/s)	(cm²)	(unitless)	(unitless)	(யூ/m³)	(μg/m³) <sup>-1</sup>	(mg/m³)
, , , , , , , , , , , , , , , , , , ,			· · · · · · · · · · · · · · · · · · ·		···-··································						
1112.76	15	2.05E+04	1.25	8.33E+01	4.69E-03	5.00E+03	2.75E+15	3.56E-06	7.30E-02	NA.	1.4E-01

RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

INCREMENTAL RISK CALCULATIONS:

Indoor exposure groundwater conc., carcinogen (µg/L)	Indoor exposure groundwater conc., noncarcinogen (µg/L)	Risk-based indoor exposure groundwater conc., (µg/L)	Pure component water solubility, S (µg/L)	Final indoor exposure groundwater conc., (µg/L)
NA NA	NA NA	NA NA	6.00E+04	NA

Incremental	Hazard
risk from	quotient
vapor	from vapor
intrusion to	intrusion to
indoor air,	îndoor air,
carcinogen	noncarcinogen
(unitless)	(unitless)
NΔ	3.0E-04

Ţ

MESSAGE SUMMARY BELOW:

Reset to Defaults	OALOUG ATT MODE	YES	OR			Vapor Intrusion G Interim Final 12/0 (last modified 1/21	4
Delatio	(enter "X" in "YES" b			DUNDWATER CONCE ()	THATION		
		YES	X				
	ENTER	ENTER Initial					
	Chemical	groundwater					
	CAS No.	cong.,					
	(numbers only,	CW					
	no dashee)	(Hð/L)	<u> </u>	hemical	-		
	98066	9.40E+00	tert-Bi	utylbenzene			
MORE	ENTER Depth	ENTER	ENTER	ENTER			
¥	below grade			Average		ENTER	
	to bottom	Depth		\lios		Average vapor	
	of englosed	below grade	SCS	groundwater		llow rate into bldg.	L-1
	space floor, L <sub>F</sub>	to water table, Lwr	soil type directly above	temperature, T₃	(Lea	ive blank to calcula Q <sub>eol</sub>	(DB)
	(cm)	(cm)	water table	(°C)		(L/m)	
					_ :		
	15	1127,76					
	13	[ 1121.15	SIC I	24	٠ . ا	5	
MORE +	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR OR	ENTER User-defined vandose zone soil vapor permeability, k, (om²)	ENTER Vadose zone SCS Soil type Lookus Scil Parameters	ENTER Vadose zone soil dry bulk density, Pb <sup>V</sup> (g/cm <sup>2</sup> )	ENTER Vadose zone soil total porosity, n <sup>V</sup> (unitless)	soil water-fill perosity, 6 <sub>w</sub> V (cm <sup>0</sup> /cm <sup>3</sup> )
	ENTER Vedose zone SCS soil type (used to estimate soil vapor		ENTER User-defined vandose zone soil vapor permeability,	ENTER Vadose zone SCS soil type Lookup Sc#	Vadose zone soil dry bulk density, pbV	ENTER Vadose zone soil total porceity, n <sup>V</sup>	Vadose zor soil water-fill peresity, $\theta_w^V$
	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for carcinogens, TR	ENTER Target hazard quotient for nonacrinogens, THQ	ENTER User-defined vandose zone soil vapor permeability, k, (om²)  ENTER Averaging time for carcinogens, AT <sub>D</sub>	ENTER Vadose zone SCS soil type Lookup Soil Parameters SIC  ENTER Averaging time for noncarcinogens, ATno	Vadose zone soil dry bulk density, pb (g/cm²)  1.5  ENTER  Exposure duration, ED	ENTER Vadose zone soil total poresity, n (unitless)  0.43  ENTER  Exposure frequency, EF	Vadose zon soil water-fill perosity, 6, V (cm <sup>3</sup> /cm <sup>2</sup> )
More	ENTER Vedose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for cardnogens,	OR  ENTER Target hazard quotient for noncarcinogens,	ENTER User-defined vandose zone soil vapor permeability, k, (om²)  ENTER Averaging time for carcinogens,	ENTER Vadose zone SCS soil type Lookap Scil Parameters SIC  ENTER Averaging time for noncarcinogens,	Vadose zone soil dry bulk density, pbV (g/cm²)  1.5	ENTER Vadose zone soil total portosity, n (unitless)  0.43  ENTER  Exposure frequency,	Vadose zon soil water-fill perosity, 6, V (cm <sup>-9</sup> /cm <sup>2</sup> )
More	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for carcinogens, TR	ENTER Target hazard quotient for nonacrinogens, THQ	ENTER User-defined vandose zone soil vapor permeability, k, (om²)  ENTER Averaging time for carcinogens, AT <sub>D</sub>	ENTER Vadose zone SCS soil type Lookup Soil Parameters SIC  ENTER Averaging time for noncarcinogens, ATno	Vadose zone soil dry bulk density, pb (g/cm²)  1.5  ENTER  Exposure duration, ED	ENTER Vadose zone soil total poresity, n (unitless)  0.43  ENTER  Exposure frequency, EF	Vadose zon soil water-fill perosity, 6, V (cm <sup>3</sup> /cm <sup>2</sup> )

Diffusivity in air, D <sub>a</sub> (cm²/s)	Diffusivity in water, D <sub>w</sub> (cm²/s)	Henry's law constant at reference temperature, H (atm-m³/mol)	Henry's law constant reference temperature, T <sub>R</sub> (°C)	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$ (cal/mol)	Normal boiling point, T <sub>B</sub> (°K)	Critical temperature, T <sub>C</sub> (°K)	earbon partition coefficient, K <sub>∞</sub> (cm³/g)	component water solubility, S (mg/L)	Unit risk factor, URF (µg/m³) <sup>-1</sup>	Reference conc., RfC (mg/m <sup>3</sup> )
5.65E-02	8.02E-06	1.19E-02	25	8,980	442.10	1220,00	7,71E+02	2.95E+01	0,0E+00	1.4E-01

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_a^{\ \ \ \ \ \ \ \ }$ (cm <sup>3</sup> /cm <sup>3</sup> )	Vadose zone effective total fluid saturation, S <sub>te</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Vadose zone soil intrinsic permeability, k; (cm²)	Vadose zone soil relative air permeability, k <sub>rg</sub> (crn²)	Vadose zone soil effective vapor permeability, k <sub>r</sub> (cm²)	Thickness of capillary zone, L₀z (cm)	Total porosity in capillary zone, n <sub>ez</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Air-filled porosity in capillary zone, θ <sub>a,cz</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Water-filled porosity in capillary zone, $\theta_{w,cz}$ (cm <sup>3</sup> /cm <sup>3</sup> )	Floor- wall searn perimeter, X <sub>crack</sub> (cm)	
1112.76	0.280	0.122	1.52E-09	0.937	1.42E-09	192.31	0.481	0.057	0.424	4,000	]
Bldg. ventilation rate, Q <sub>bullding</sub> (cm <sup>3</sup> /s)	Area of enclosed space below grade, A <sub>B</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, η (unitless)	Crack depth below grade, Z <sub>crack</sub> (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. groundwater temperature, H <sub>TS</sub> (atm-m³/mol)	Henry's law constant at ave. groundwater temperature, H' <sub>TS</sub> (unitless)	Vapor viscosity at ave. soil temperature,	Vadose zone effective diffusion coeffusient, D <sup>eff</sup> v (cm <sup>2</sup> /s)	Capillary zone effective diffusion coefficient, Deff cz (cm²/s)	Total overall effective diffusion coefficient, D <sup>eff</sup> <sub>T</sub> (cm <sup>2</sup> /s)	
3.39E+04	1.00E+06	5.00E-03	15	9,452	1.13E-02	4.62E-01	1,80E-04	4,41E-03	2.22E-05	1,26E-04	1
Diffusion path length, L <sub>d</sub> (cm)	Convection path length, Lp (cm)	Source vapor conc., C <sub>source</sub> (µg/m³)	Crack radius, r <sub>onok</sub> (cm)	Average vapor flow rate into bldg., Q <sub>sol</sub> (cm <sup>3</sup> /s)	Crack effective diffusion coefficient, D <sup>crack</sup> (cm <sup>2</sup> /s)	Area of crack, A <sub>crack</sub> (crn <sup>2</sup> )	Exponent of equivalent foundation Peclet number, exp(Pe <sup>f</sup> ) (unitless)	Infinite source indoor attenuation ceefficient, α (unitless)	Infinite source bldg. conc., Cbuilding (µg/m³)	Unit risk factor, URF (µg/m³)-1	Reference conc., RfC (mg/m³)
1112.76	15	4.34E+03	1.25	8.33E+01	4.41E-03	5.00E+03	2.65E+16	3.33E-06	1.44E-02	NA	1.4E-01

RESULTS SHEET

# RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

### INCREMENTAL RISK CALCULATIONS;

Indoor exposure groundwater conc., carcinogen (µgAL)	Indoor exposure groundwater conc., noncarcinogen (µg/L)	Flisk-based indoor exposure groundwater cone., (µg/L)	Pure component water solubility, S (µg/L)	Final indoor exposure groundwater conc., (µg/L)
NA.	NA	NA .	2.95E+04	NA

Incremental	Hazard
risk from	quotient
vapor	from vapor
Intrusion to	intrusion to
indoor air,	indoor air,
carcinogen	noncarcinogen
(unitless)	(unitless)
NA	5.9E-05

MESSAGE SUMMARY BELOW:

GW-SCREEN rsion 3.0; 04/03	CALCULATE RISK F	BASED GROUNDW YES	VATER CONCENTE	LATION (enter 'X" in "YE	S° box	DTSC Vapor Intrusion G Interim Final 12/04 (last modified 1/21)	1
Defaults	CALCULATE INCRE {enter 'X' in "YES" b		ROM ACTUAL GRO	OUNDWATER CONCENT)	THATION		
		YES	X				
	ENTER	ENTER Initial					
	Chemical	groundwater					
	CAS No.	conch					
	(numbers only,	Cw					
	no dashes)	(µg/L)		hemical	=		
	127184	2.70E+00	Tetrach	nloroethylene		-8-	
	ENTER	ENTER	ENTER	ENTER			
MORE	Depth			400000			
¥	below grade to bottom	Depth		Average soil/		ENTER Average vapor	
	of endosed	below grade	scs	groundwater		flow rate into bidg.	
	space floor,	to water table,	soil type	temperature,		ave blank to calcula	đe)
	L#	LWT	directly above	Ts		Opol	
	(cm)	(om)	water table	(°C)	<b>.</b>	(L/m)	
					_		
	16	1197.76	210	24		5	
	15	1127.76	SIC	24		5	
MORE ↓	15 ENTER	1127.76	SIC	24		5	
	ENTER Vadose zone	1127.76	ENTER User-defined	ENTER	ENTER	ENTER	ENTER
	ENTER Vadose zone SCS	1127.76	ENTER User-defined vandose zone	ENTER Vadose zone	Vadose zone	ENTER Vadose zone	Vadose zor
	ENTER Vadose zone SCS soil type		ENTER User-defined Vandose zone soil vapor	ENTER Vadose zone SCS	Vadose zone soil dry	ENTER Vadose zone soil total	Vadose zor soil water-fil
	ENTER Vadose zone SCS soil type (used to estimate	1127.76	ENTER User-defined varidose zone soil vapor permeability,	ENTER Vadose zone SoS soil type	Vadose zone soil dry bulk density,	ENTER Vadose zone soil total porosity,	Vadose zor soil water-fil poresity,
	ENTER Vadose zone SCS soil type (used to estimate soil vapor		ENTER User-defined varidose zone soil vapor permasolity, k,	ENTER Vadose zone SCS	Vadose zone soil dry bulk density, Pa <sup>V</sup>	ENTER Vadose zone soil total porosity, n <sup>Y</sup>	Vadose zo: soil water-fil porceity, e <sub>w</sub> V
	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)		ENTER User-defined varidose zone soil vapor permeability,	ENTER Vadose zone SCS soil type Lookup still Parameters	Vadose zone soil dry bulk density, p <sub>b</sub> <sup>V</sup> (g/cm <sup>3</sup> )	ENTER Vadose zone soil total porosity, n (unitless)	Vadose zo: soil water-fil poresity, $\theta_w^V$ (cm³/cm³
	ENTER Vadose zone SCS soil type (used to estimate soil vapor		ENTER User-defined varidose zone soil vapor permasolity, k,	ENTER Vadose zone SCS soil type Lookup soil	Vadose zone soil dry bulk density, Pa <sup>V</sup>	ENTER Vadose zone soil total porosity, n <sup>Y</sup>	Vadose zor soil water-fil poresity, $\theta_w^V$
	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)		ENTER User-defined varidose zone soil vapor permasolity, k,	ENTER Vadose zone SCS soil type Lookup still Parameters	Vadose zone soil dry bulk density, p <sub>b</sub> <sup>V</sup> (g/cm <sup>3</sup> )	ENTER Vadose zone soil total porosity, n (unitless)	Vadose zor soil water-fil poresity, e <sub>w</sub> V (cm³/cm³)
MORE	ENTER  Vadose zone SCS soil type (used to estimate soil vapor permeability)  SIC	OR .	ENTER User-defined varidose zone soil vapor permeability, k, (om²)	ENTER Vadose zone SOS Soil type Lookup Soil Parameters	Vadose zone soil dry bulk density, P <sub>b</sub> <sup>V</sup> (g/em <sup>5</sup> )	ENTER Vadose zone soil total portosity, n <sup>Y</sup> (unitless)	Vadose zor soil water-fil poresity, e <sub>w</sub> V (cm³/cm³)
•	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC	OR .	ENTER User-defined Varidose zone soil vapor permeability, k, (om²)  ENTER	ENTER Vadose zone SCS Soil type Lookup Soil Parameters SIC	Vadose zone soil dry bulk density, p <sub>b</sub> <sup>V</sup> (g/cm <sup>3</sup> )	ENTER Vadose zone soil total porosity, n (unitless)	Vadose zor soil water-fil poresity, e <sub>w</sub> V (cm³/cm³)
MORE	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target	OR  ENTER Target hazard	ENTER User-defined vandose zone soil vapor permeability, k, (om²)  ENTER Averaging	ENTER Vadose zone SCS Soil type Lookup sidi Parameters SIC ENTER Averaging	Vadose zone soil dry bulk density, Pb (g/oms) 1.5	ENTER Vadose zone soil total porosity, n' (unitless)  0,43	Vadose zor soil water-fil poresity, e <sub>w</sub> V (cm³/cm³)
MORE	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for	OR  ENTER Target hazard quotient for	ENTER User-defined varidose zone soil vapor permeability, k, (om²)  ENTER Averaging time for	ENTER Vadose zone SCS Soil type Lookup 30ki Parameters  SIC  ENTER Averaging time for	Vadose zone soil dry bulk density, Pb (g/ems)  1.5	ENTER Vadose zone soil total porosity, n (unitless)  0.43  ENTER Exposure	Vadose zor soil water-fill poresity, 6,, <sup>V</sup> (cm³/cm³)
MORE	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target	OR  ENTER Target hazard	ENTER User-defined vandose zone soil vapor permeability, k, (om²)  ENTER Averaging	ENTER Vadose zone SCS Soil type Lookup sidi Parameters SIC ENTER Averaging	Vadose zone soil dry bulk density, Pb (g/oms) 1.5	ENTER Vadose zone soil total porosity, n' (unitless)  0,43	Vadose zor soil water-fil poresity, e <sub>w</sub> V (cm³/cm³)
MORE	ENTER  Vadose zone SCS soil type (used to estimate soil vapor permeability)  SIC  ENTER Target risk for carcinogens,	OR  ENTER Target hazard quotient for noncarcinogens,	ENTER User-defined varidose zone soil vapor permeability, k, (om²)  ENTER Averaging time for cardinogens,	ENTER Vadose zone SOS Soil type Lookup Soil Parameters SIC  ENTER Averaging time for noncarcinogens.	Vadose zone soil dry bulk density, pb (g/cm³)  1.5  ENTER  Exposure duretton,	ENTER Vadose zone soil todase zone soil todase zone soil todase porosity, n (unitless)  0.43  ENTER Exposure frequency,	Vadose zor soil water-fill poresity, 6,, <sup>V</sup> (cm³/cm³)
<b>₩</b>	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for carcinogens, TR	ENTER Target hazard quotient for noncercinogens, THQ	ENTER User-defined Vandose zone soil vapor permeability, k, (om²)  ENTER Averaging time for carcinogens, AT <sub>G</sub>	ENTER Vadose zone SCS Soil type Lootop Stell Parameters  SIC  ENTER Averaging time for ronoarcinogens, ATing	Vadose zone soil dry bulk density, Po V (g/om <sup>3</sup> )  1.5  ENTER Exposure dureton, ED	ENTER Vadose zone soil total porosity, n <sup>y</sup> (unitless) 0,43  ENTER Exposure frequency, EF	Vadose zor soil water-fill poresity, 6,, <sup>V</sup> (cm³/cm³)

ABC  Diffusivity in air,  Da	Diffusivity in water, D <sub>w</sub>	Henry's law constant at reference temperature, H	Henry's law constant reference temperature, T <sub>R</sub>	Enthalpy of vaporization at the normal boiling point, $\Delta H_{vh}$	Normal boiling point, T <sub>B</sub>	Critical temperature, $T_G$	Organic carbon partition coefficient, K <sub>re</sub>	Pure component water solubility, S	Unit risk factor, URF	Reference conc., RfC
(cm <sup>2</sup> /s)	(cm <sup>2</sup> /s)	(atm-m <sup>3</sup> /mol)	(°C)	(cal/mol)	(°K)	(°K)	(cm <sup>3</sup> /g)	(mg/L)	(µg/m³) <sup>-1</sup>	(mg/m³)
7.20E-02	8.20E-06	1.84E-02	25	8,288	394.40	620.20	1.55E+02	2.00E+02	5.9E-06	3.5E-02

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_a^{\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	Vadose zone effective total fluid saturation, S <sub>te</sub> (cm³/cm³)	Vadose zone soil intrinsic permeability, k (cm²)	Vadose zone soil relative air permeability, k <sub>rg</sub> (cm²)	Vadose zone soil effective vapor permeability, k, (cm²)	Thickness of capillary zone, L <sub>cz</sub> (cm)	Total porosity in capillary zone, n <sub>oz</sub> (cm³/cm³)	Air-filled porosity in capillary zone, θ <sub>a,cz</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Water-filled porosity in capillary zone, θ <sub>w,oz</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Floor- wall seam perimeter, X <sub>orack</sub> (cm)	
1112.76	0,280	0.122	1.52E-09	0.937	1.42E-09	192.31	0.481	0.057	0.424	4,000	]
Bldg. ventilation rate, <sup>Q</sup> bulding (cm <sup>3</sup> /s)	Area of enclosed space below grade, A <sub>B</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, η (unitless)	Crack depth below grade, Z <sub>orack</sub> (cm)	Enthalpy of vaporization at ave. groundwater temperature,	Henry's law constant at ave. groundwater temperature, H <sub>TS</sub> (atm-m <sup>2</sup> /mol)	Henry's law constant at ave. groundwater temperature, H' <sub>TS</sub> (unitless)	Vapor viscosity at ave. soil temperature,  ltrs (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>eff</sup> v (cm <sup>2</sup> /s)	Capillary zone effective diffusion coefficient, Deff oz (cm <sup>2</sup> /s)	Total overall effective diffusion coefficient, Deff_ (cm²/s)	
3.39E+04	1.00E+06	5,00E-03	15	9,410	1.74E-02	7.14E-01	1.80E-04	5.62E-03	2.57E-05	1.46E-04	
Diffusion path length, L <sub>d</sub>	Convection path length,	Source vapor conc., C <sub>source</sub>	Crack radius, r <sub>crack</sub>	Average vapor flow rate into bldg., Q <sub>soil</sub>	Crack effective diffusion coefficient, D <sup>crack</sup>	Area of crack, A <sub>orack</sub>	Exponent of equivalent foundation Peclet number, exp(Pe <sup>f</sup> )	Infinite source indoor attenuation coefficient,	Infinite source bidg. conc., C <sub>building</sub>	Unit risk factor, URF	Reference conc.,
(cm)	(cm)	(μg/m³)	(cm)	(cm <sup>3</sup> /s)	(cm²/s)	(cm²)	(unitless)	(unitless)	(µg/m³)	(μg/m³) <sup>-1</sup>	(mg/m³)
1112.76	15	1.93E+03	1.25	8.33E+01	5.62E-03	5.00E+03	7.73E+12	3.85E-06	7.42E-03	5.9E-06	3.5E-02

# RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

# INCREMENTAL RISK CALCULATIONS:

Indoor exposure groundwater conc., carcinogen (µg/L)	Indoor exposure groundwater conc., noncarcinogen (µg/L)	Risk-based indoor exposure groundwater conc., (µg/L)	Pure component water solubility, S (µg/L)	Final indoor exposure groundwater conc.,
NA	NA.	NA	2.00E+05	NA

Incremental	Hazard
risk from	quotient
vapor	from vapor
intrusion to	intrusion to
indoor air,	indoor air,
carcinogen	noncarcinoger
(unitless)	(unitless)

MESSAGE SUMMARY BELOW:

			UATA ENTINE	anee i			
GW-SCREEN Version 3.0; 04/03	CALCULATE RISK-	BASED GROUNDV YES	OR	RATION (enter "X" in "Y	'ЕЗ" box)	DTSC Vapor Intrusion ( Interim Final 12/0 (last modified 1/2	4
Defaults	CALCULATE INCRE (erner "X" in "YES" !			DUNDWATER CONCE ()	NOTRATION		
		YES	Х			•	
	ENTER	ENTER					
	Chemical	initial groundweter					
	CAS No.	conc.,					
	(numbers only,	Cw					
	no dashes)	(µg/L)	C	ihemical	_		
	158605	5,20E+00	trans-1,2-	Dichloroethylene			
MORE	ENTER Depth	ENTER	ENTER	ENTER			
₩ OHL	below grade			Average		ENTER	
	to bottom	Depth	200	Vios		Average vapor	
	of enclosed apace floor,	below grade to water table.	SCS soil type	groundwater temperature,		flow rate into bldg, ave blank to calcul	
	L <sub>F</sub>	LwT	directly above	Ta	,	المحا	,
	(em)	(em)	water table	(70)		(L/m)	
	15	1127.76	SIC	24	<b>-</b>	5	1
MORE	ENTER Vadose zone		ENTER User-defined	ENTER	ENTER	ENTER	ENTER
	SCS soil type		vandose zone soil vapor	Vadose zone SCS	Vadose zone soil dry	Vadose zone soil total	Vadose zon soil water-till
	(used to estimate	OR	permeability,	soil type	bulk density,	porosity,	porosity,
	soll Vapor		K <sub>v</sub>	Lockup Soil	Pb	п	0, V
	permeshility)	-	(cm <sup>2</sup> )	Parameters	(g/cm³)	(unitless)	(cm³/cm³)
	SIC	1		SIC	1.5	0.43	0.15
MORE						ese-or	
4	ENTER Target	ENTER Target hazard	ENTER Averaging	ENTER Averaging	ENTER	ENTER	
	risk for	quotient for	time for	time for	Exposure	Ехроэште	
	carcinogens,	noncarcinogena,	carcinogens,	noncarcinogens,	duration,	frequency,	
	TR (unitless)	THQ (unitless)	AT <sub>C</sub> (vns)	AT <sub>NC</sub> (yrs)	ED (yrs)	EF (days/yr)	
	1.0Ë-06	t	70	30	25	250	
	I found the control	ata siah hanad					-
	Used to calcul groundwater of						
			_				

and the second of the second o

ABC										
		Henry's law constant	Henry's law constant	Enthalpy of vaporization at	Normal		Organic carbon	Pure component	Unit	
Diffusivity	Diffusivity	at reference	reference	the normal	boiling	Critical	partition	water	risk	Reference
in air,	in water,	temperature,	temperature,	boiling point,	point,	temperature,	coefficient,	solubility,	factor,	сопс.,
$D_a$	$D_w$	н	$T_R$	$\Delta H_{v,b}$	Тв	$T_{\mathbf{C}}$	K <sub>oc</sub>	S	URF	RfC
(cm²/s)	(cm²/s)	(atm-m³/mol)	(°C)	(cal/mol)	(°K)	(°K)	(cm³/g)	(mg/L)	(μg/m³) <sup>-1</sup>	(mg/m³)
7.07E-02	1.19E-05	9.36E-03	25	6,717	320.85	516.50	5.25E+01	6.30E+03	0.0E+00	7.0E-02

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_a^{V}$ (cm³/cm³)	Vadose zone effective total fluid saturation, Site (cm³/cm³)	Vadose zone soil intrinsic permeability, ki (cm²)	Vadose zone soil relative air permeability, k <sub>rg</sub> (cm²)	Vadose zone soil effective vapor permeability, k, (cm²)	Thickness of capillary zone,  L <sub>oz</sub> (cm)	Total porosity in capillary zone, n <sub>ez</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Air-filled porosity in capillary zone, $\theta_{a,cz}$ (cm <sup>9</sup> /cm <sup>3</sup> )	Water-filled porosity in capillary zone, $\theta_{w,cz}$ (cm <sup>3</sup> /cm <sup>3</sup> )	Floor- wall seam perimeter, X <sub>orack</sub> (cm)	•
1112.76	0.280	0.122	1.52E-09	0.937	1.42E-09	192,31	0.481	0.057	0.424	4,000	]
Bldg. ventilation rate, Q <sub>building</sub> (cm³/s)	Area of enclosed space below grade, A <sub>B</sub> (cm²)	Crack- to-total area ratio, ŋ (unitless)	Crack depth below grade, Z <sub>erack</sub> (cm)	Enthalpy of vaporization at ave. groundwater temperature, (cal/mol)	Henry's law constant at ave. groundwater temperature, H <sub>TS</sub> (atm-m³/mol)	Henry's law constant at ave. groundwater temperature, H' <sub>15</sub> (unitless)	Vapor viscosity at ave. soil temperature,  µтs (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>eff</sup> v (cm²/s)	Capillary zone effective diffusion coefficient, D <sup>eff</sup> oz (cm²/s)	Total overall effective diffusion coefficient, D <sup>eff</sup> T (cm <sup>2</sup> /s)	ı
3.39E+04	1.00E+06	5,00E-03	15	6,986	8.99E-03	3.69E-01	1.80E-04	5.51E-03	3.04E-05	1.72E-04	
Diffusion path length, L <sub>d</sub> (cm)	Convection path length, L <sub>p</sub> (cm)	Source vapor conc., C <sub>source</sub> (μg/m³)	Crack radius, r <sub>orsok</sub> (cm)	Average vapor flow rate into bldg.,  Q <sub>soil</sub> (cm <sup>3</sup> /s)	Crack effective diffusion coefficient, D <sup>crack</sup> (cm <sup>2</sup> /s)	Area of crack, A <sub>crack</sub> (cm <sup>2</sup> )	Exponent of equivalent foundation Peclet number, exp(Pef) (unitless)	Infinite source indoor attenualion coefficient, α (unitless)	Infinite source bldg. conc., C <sub>building</sub> (µg/m³)	Unit risk factor, URF (µg/m³) <sup>-1</sup>	Reference conc., RfC (mg/m³)
1112.76	15	1.92E+03	1.25	8,33E+01	5.51E-03	5,00E+03	1.33E+13	4.54E-06	8.71E-03	NA.	7.0E-02

# RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

# INCREMENTAL RISK CALCULATIONS:

Indoor exposure groundwater conc., carcinogen	Indoor exposure groundwater conc., noncarcinogen	Risk-based indoor exposure groundwater conc.,	Pure component water solubility,	Final indoor exposure groundwater conc.,
(μg/ <b>L</b> )	(μg/L)	(µg/L)	(µg/L)	(μg/L)
NA NA	NA NA	NA	6.30E+06	NA

incremental	Hazard
risk from	quotient
чарот	from vapor
intrusion to	intrusion to
indoor air,	indoor air,
carcinogen	noncarcinogen
(unitless)	(unitless)
NA.	7.1E-05

MESSAGE SUMMARY BELOW:

GW-SCREEN ersion 3.0; 04/03	CALCULATE RISK-	BASED GROUNDW YES	OR	iATION (enter "X" in "Y		DTSC Vapor intrusion G Interim Final 12/0 (last modified 1/21	4
Defaults	CALCULATE INCRE (enter "X" in "YES" b			OUNDWATER CONCE			,
		YES	Х				
	ENTER	ENTER Initial					
	Chemical	groundwater					
	CAS No.	conc.,					
	(numbers only, no dashes)	C <sub>W</sub> (µg/L)	c	hemical			
	79016	2.50E+00	Trichl	oroe <b>tty</b> lene	<b>-</b> -		
					_		
MORE	ENTER Depth	ENTER	ENTER	ENTER			
4	below grade			Average		ENTER	
	to bottom	Depth		soil		Average vapor	
	of enclosed	below grade	SCS	groundwater		flow rate into bidg.	
	space floor, L <sub>F</sub>	to water table, L <sub>wt</sub>	eoil type directly above	temperature, T <sub>S</sub>	(Lea	we blank to calcula Q <sub>soll</sub>	arre j
			water table	(°C)			
	(cm)	(em)	water table	(0)	-	(L/m)	
	15	1127.76	sic	24	] [	5	
MORE 4	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	1127.76 OF	ENTER User-defined vandose zone soil vapor permeability,  k, (cm²)	ENTER Vadosa zone SCS soil type Lockup Soil Parameters	ENTER Vadose zone soil dry bulk density, Pb (g/cm²)	ENTER Vadose zone soil total porosity, n <sup>V</sup> (unitless)	ENTER Vadose zone soil water-fille porosity, θ <sub>w</sub> (om <sup>3</sup> /cm <sup>2</sup> )
	ENTER Vadose zone SCS soil type (used to estimate soil vapor		ENTER User-defined vandose zone soil vapor permeability,	ENTER Vadoss zone SCS soil type Lookup Skil	Vadose zone soil dry bulk density, Pb	ENTER Vadose zone soil total porosity, n <sup>V</sup>	Vadose zon- soil water-fille porosity, $\theta_w^{V}$
	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for carcinogens, TR	ENTER Target hazard quotient for noncarcinogens, THQ	ENTER User-defined vandose zone soil vapor permeability, k <sub>v</sub> (cm²)  ENTER Averaging time for carcinogens, ATo	ENTER Vadoss zone SCS soil type Lookup Skil Parameters  SIC  ENTER Averaging time for roncarcinogens, AT <sub>NO</sub>	Vadose zone soil dry bulk density, Pb (g/cm²)  1.5  ENTER  Exposure duration, ED	ENTER Vadose zone soil total porosity, nV (unitless)  0.43  ENTER Exposure frequency, EF	Vadose zone soil water-fille porosity, 9,, <sup>V</sup> (cm <sup>2</sup> /cm <sup>2</sup> )
MORE	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for carcinogens,	OFI  ENTER Target hazard quotient for noncarcinogens,	ENTER User-defined vandase zone soil vapor permeability, k, (cm²)  ENTER Awaraging time for carcinogens,	ENTER Vadoss zone SCS soil type Looksp Soil Parameters SIC  ENTER Averaging time for noncarcinogens,	Vadose zone soil dry bulk density, PbV (g/cm²)  1.5  ENTER  Exposure duration,	ENTER Vadose zone soil total porosity, n (unitless)  0.43  ENTER Exposure frequency, EF (days/vr)	Vadose zone soil water-fille porosity, 6 <sub>w</sub> <sup>V</sup> (om <sup>2</sup> /om <sup>2</sup> )
MORE	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for carcinogens, TR	ENTER Target hazard quotient for noncarcinogens, THQ	ENTER User-defined vandose zone soil vapor permeability, k <sub>v</sub> (cm²)  ENTER Averaging time for carcinogens, ATo	ENTER Vadoss zone SCS soil type Lookup Skil Parameters  SIC  ENTER Averaging time for roncarcinogens, AT <sub>NO</sub>	Vadose zone soil dry bulk density, Pb (g/cm²)  1.5  ENTER  Exposure duration, ED	ENTER Vadose zone soil total porosity, nV (unitless)  0.43  ENTER Exposure frequency, EF	Vadose zone soil water-fille porosity, 6 <sub>w</sub> <sup>V</sup> (om <sup>2</sup> /om <sup>2</sup> )

ABC										
		Henry's	Henry's	Enthalpy of			Organic	Pure		
		law constant	law constant	vaporization at	Normal		carbon	component	Unit	
Diffusivity	Diffusivity	at reference	reference	the normal	boiling	Critical	partition	water	risk	Reference
in air,	in water,	temperature,	temperature,	boiling point,	point,	temperature,	coefficient,	solubility,	factor,	conc.,
$D_a$	$D_{\mathbf{w}}$	н	ΤŔ	$\Delta H_{v,b}$	Τ <sub>B</sub>	T <sub>C</sub>	K₀c	S	URF	RfC
(cm²/s)	(cm²/s)	(atm-m³/mol)	(°C)	(cal/mol)	(°K)	(°K)	(cm³/g)	(mg/L)	(μg/m³)-1	(mg/m <sup>3</sup> )
7.90E-02	9.10E-06	1.03E-02	25	7,505	360.36	544.20	1.66E+02	1.47E+03	2.0E-06	6,0E-01

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_a^V$ (cm³/cm³)	Vadose zone effective total fluid saturation, S <sub>le</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Vadose zone soil intrinsic permeability, k; (cm²)	Vadose zone soil relative air permeability, k <sub>g</sub> (cm²)	Vadose zone soil effective vapor permeability, k, (cm²)	Thickness of capillary zone, L <sub>oz</sub> (cm)	Total porosity in capillary zone, n <sub>oz</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Air-filled porosity in capillary zone, θ <sub>a,oz</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Water-filled porosity in capillary zone, $\theta_{w,cz}$ (cm <sup>3</sup> /cm <sup>3</sup> )	Floor- wall seam perimeter, X <sub>orack</sub> (cm)	
1112.76	0,280	0.122	1.52E-09	0,937	1.42E-09	192.31	0.481	0.057	0.424	4,000	
Bldg. ventilalion rate, Q <sub>building</sub> (cm³/s)	Area of enclosed space below grade, A <sub>B</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, η (unitless)	Crack depth below grade, Z <sub>orack</sub> (cm)	Enthalpy of vaporization at ave. groundwater temperalure, ΔH <sub>v,TS</sub> (cal/mol)	Henry's law constant at ave. groundwater temperature, H <sub>TS</sub> (atm-m <sup>2</sup> /mol)	Henry's law constant at ave. groundwater temperature, H' <sub>TS</sub> (unitless)	Vapor viscosity at ave. soil temperature, µrs (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>eff</sup> V (cm²/s)	Capillary zone effective diffusion coefficient, D <sup>eff</sup> <sub>oz</sub> (cm <sup>2</sup> /s)	Total overall effective diffusion coefficient, D <sup>eff</sup> <sub>T</sub> (cm <sup>2</sup> /s)	
3.39E+04	1.00E+06	5,00 <b>E-</b> 03	15	8,382	9.80E-03	4,02E-01	1.80E-04	6.16E-03	3.07E-05	1.73E-04	
Diffusion path length, L <sub>d</sub> (cm)	Convection path length, L <sub>p</sub> (cm)	Source vapor conc., C <sub>source</sub> (µg/m³)	Crack radius, r <sub>crack</sub> (cm)	Average vapor flow rate into bldg., Q <sub>soil</sub> (cm³/s)	Crack effective diffusion coefficient, D <sup>crack</sup> (cm <sup>2</sup> /s)	. Area of crack, A <sub>erack</sub> (cm <sup>2</sup> )	Exponent of equivalent foundation Peclet number, exp(Pef) (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., C <sub>building</sub> (µg/m³)	Unit risk factor, URF (μg/m³)-1	Reference conc., RfC (mg/m³)
(only	(011)	V-3···/	(2111)		\	/	(dilidooo)	(dilidoc)	(mgr)	(h:St)	(
1112.76	<b>1</b> 5	1.00E+03	1.25	8.33E+01	6.16E-03	5.00E+03	5.57E+11	4.59E-06	4.61E-03	2.0E-06	6.0E-01

### RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

### INCREMENTAL RISK CALCULATIONS:

indoor exposure groundwater conc. carcinogen (µg/L)	Indoor exposure groundwater conc., noncarcinogen (µg/L)	Risk-based indoor exposure groundwater conc., (µg/L)	Pure component water solubility, S (µg/L)	Final indoor exposure groundwaler conc., (µg/L)
NA	NA.	NA	1.47E+06	NA

	Incremental	Hazard
	risk from	quotient
	vapor	from vapor
	intrusion to	intrusion to
	indoor air,	indoor air,
	carcinogen	noncarcinogen
=	(unitless)	(unitless)
	2.3F-09	4.4E-06

MESSAGE SUMMARY BELOW:

	(unitless)	(unitless)	()/rs) 70	(yrs)	(yrs)	(days/yr)	
MORE #	ENTER Target risk for carcinogens, TR	ENTER Target hazard quotient for noncarcinogens, THQ	ENTER Averaging time for carcinogens, ATc	ENTER Averaging time for noncarcinogens, ATNo	EXPOSURE duration,	EXPOSURE frequency,	
	SIC			SIC	1.5	0.43	0.15
	Vadose zone SCS soil type (used to estimate soil vapor permeability)	CR	User-defined vandose zone soil vapor permeability, k, (cm²)	Vadose zone SCS Soil type Leokip Soil Paramoters	Vadose zone soil dry bulk density, Ph (g/cm²)	Vadose zone soil total porosity, n <sup>Y</sup> (unitless)	Vadose zon soil water-fill porosity, 9,, <sup>V</sup> (cm <sup>3</sup> /cm <sup>3</sup> )
MOHE	ENTER		ENTER				
	15	1127.76	I sic T	24		5	
	L <sub>F</sub> (om)	L <sub>WT</sub> (cm)	directly above water table	T <sub>6</sub> (°C)	,	Q <sub>adi</sub> (L/m)	
•	below grade to bottom of enclosed space floor,	Depth below grade to water lable,	SCS soil type	Average soil/ groundwater temperature,		ENTER Average vapor flow rate into bidg. eva blank to calcula	
MORE	ENTER Depth	ENTER	ENTER	ENTER		Palvon	
	75014	6.71E+01	Vinyl chlor	ide (chloroethene)	]		
	no dashes)	{μ <b>g/L</b> )	C	Chemical	-		
	CAB No. (numbers only,	conc., C <sub>W</sub>					
	Chemical	initial groundwater				*	
	ENTER	YES	Х				
	(enter "X" in "YES" b		<u> </u>	v)			
Reset to Delaults	GALCULATE INCRE	EMENTAL RISKS FI	OR ROM ACTUAL GRO	DUNDWATER CONCE	NTRATION	(last modified 1/2)	L/O5)
C		YES				Interim Final 12/0	4
ion 3.0; 04/03						Vapor Intresion 6	- de marke - c

ABC										
		Henry's	Henry's	Enthalpy of			Organic	Pure		
		law constant	law constant	vaporization at	Normal		carbon	component	Unit	
Diffusivity	Diffusivity	at reference	reference	the normal	boiling	Critical	partition	water	пsk	Reference
in air,	in water,	temperature,	temperature,	boiling point,	point,	temperature,	coefficient,	solubility,	factor,	conc.,
$\mathfrak{D}_{\mathrm{a}}$	$D_{w}$	H	$T_{\mathbf{R}}$	$\Delta H_{v,b}$	$T_{B}$	$T_{c}$	K₀c	S	URF	RfC
(cm²/s)	(cm²/s)	(atm-m³/mol)	(°C)	(cal/mol)	(°K)	(°K)	(cm³/g)	(mg/L)	(μg/m³) <sup>-1</sup>	(mg/m³)
1.06E-01	1.23E-05	2.69E-02	25	5,250	259.25	432.00	1.86E+01	8.80E+03	7.8E-05	1.0E-01

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_a^{\ V}$ (cm <sup>3</sup> /cm <sup>3</sup> )	Vadose zone effective total fluid saturation, Ste (cm³/cm³)	Vadose zone soil intrinsic permeability, k <sub>i</sub> (cm <sup>2</sup> )	Vadose zone soil relative air permeability, k <sub>rg</sub> (cm²)	Vadose zone soil effective vapor permeability, k, (cm²)	Thickness of capillary zone, L <sub>ez</sub> (cm)	Total porosity in capillary zone, n <sub>cz</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Air-filled porosity in capillary zone, $\theta_{a,c2}$ (cm³/cm³)	Water-filled porosity in capillary zone, θ <sub>w,c2</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Floor- wall seam perimeter, X <sub>crack</sub> (cm)	
1112.76	0.280	0.122	1.52E-09	0.937	1.42E-09	192.31	0,481	0.057	0.424	4,000	
Bldg. ventilation rate, Q <sub>bullding</sub> (cm³/s)	Area of enclosed space below grade, A <sub>B</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, n (unitless)	Crack depth below grade, Z <sub>orack</sub> (cm)	Enthalpy of vaporization at ave. groundwater temperature, $\Delta H_{v,TS}$ (cal/mol)	Henry's law constant at ave. groundwater temperature, H <sub>TS</sub> (atm-m³/mol)	Henry's law constant at ave. groundwater temperature, H' <sub>TS</sub> (unitless)	Vapor viscosity at ave, soil temperature,  µrs (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>eff</sup> v (cm²/s)	Capillary zone effective diffusion coefficient, D <sup>eff</sup> <sub>cz</sub> (cm <sup>2</sup> /s)	Total overall effective diffusion coefficient, D <sup>eff</sup> <sub>T</sub> (cm <sup>2</sup> /s)	
3.39E+04	1.00E+06	5.00E-03	15	4,840	2.62E-02	1.07E+00	1.80E-04	8.27E-03	3.65E-05	2.07E-04	
Diffusion path length, L <sub>d</sub> (cm)	Convection path length, L <sub>p</sub> (cm)	Source vapor conc., C <sub>source</sub> (μg/m³)	Crack radius, r <sub>orack</sub> (cm)	Average vapor flow rate into bldg., Q <sub>soil</sub> (cm <sup>3</sup> /s)	Crack effective diffusion coefficient, D <sup>crack</sup> (cm <sup>2</sup> /s)	Area of crack, A <sub>crack</sub> (cm <sup>2</sup> )	Exponent of equivalent foundation Peclet number, exp(Pe') (unitless)	Infinite source indoor attenuation coefficient, α (unitless)	Infinite source bldg. conc., C <sub>building</sub> (μg/m³)	Unit risk factor, URF (µg/m³) <sup>-1</sup>	Reference conc., RfC (mg/m³)
1112.76	15	7.21E+04	1.25	8.33E+01	8.27E-03	5.00E+03	5,68E+08	5.47E-06	3.95E-01	7,8E-05	1.0E-01

### RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

### INCREMENTAL RISK CALCULATIONS:

Indoor exposure groundwater conc., carcinogen (µg/L)	Indoor exposure groundwater conc., noncarcinogen (µg/L)	Risk-based indoor exposure groundwater conc., (µg/L)	Pure component water solubility, S (µg/L)	Final indoor exposure groundwater cone.,
NA	NA	NA NA	8,80E+06	NA

Incremental	Hazard
risk from	quotient
vapor	from vapor
intrusion to	intrusion to
indoor alr,	indoor air,
carcinogen	noncarcinogen
(unitless)	(unitless)

MESSAGE SUMMARY BELOW:

W-SCREEN sion 3.0; 04/03	CALCULATE RISK-E	YES	OR	tATION (enter "X" in "Y	ES (book)	Vapor Intrusion G Interim Final 12/0 (last modified 1/21	1
Defaults	CALCULATE INCRE		ROM ACTUAL GRO	OUNDWATER CONCE	NTHATION	(last modified 1/2)	705)
		YES	X				
	ENTER	ENTER Initial					
	Chemical	groundwater					
	CAS No.	cone.,					
	(numbers only, no dashes)	C <sub>W</sub> (μg/L)	C	hemical			
		787			3		
	106423	2,80E+01	p-	-Xylene			
MORE	ENTER Depth	ENTER	ENTER	ENTER			
Ψ.	below grade			Average		ENTER	
	to bottom	Depth	000	soil		Average vapor	
	of enclosed space floor,	below grade to water lable,	SCS soil type	groundwater temperature,		flow rate into bidg. ave blank to calcula	rto\
	L <sub>F</sub>	Lwr	directly above	Ts	128	Q <sub>ant</sub>	1034
	(cm)	(cm)	water table	(°C)		(L/m)	
	(GID)						
	(cm)	(Gi)	Heaven throw		-	3,410	
	15	1127.76	SIC I	24	_	5	
MORE +				ENTER Vadose zone SOS soil type Lokup Soil Parameters	ENTER  Vadose zone soll dry bulk density, p,  (g/cm²)		ENTER Vadose zone soil water-filled porosity, a <sub>e</sub> (cm³/cm³)
	ENTER Vadose zone SCS soil type (used to estimate soil vapor	1127,76	ENTER User-defined vandose zone soil vapor permeability, k <sub>v</sub>	ENTER Vadose zone SCS soil type Lookup Sol	Vadose zone soil dry bulk density, pbV	ENTER Vadose zonu soil total porosity, n	Vadose zone soil water-filled porosity, $\theta_{x}^{V}$
	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability)	1127,76	ENTER User-defined vandose zone soil vapor permeability, k <sub>v</sub>	ENTER Vadose zone SCS soil type Lookup Sol Parameters	Vadose zone soll dry bulk density, p <sub>b</sub> <sup>V</sup> {g/cm <sup>2</sup> }	ENTER Vadose zone soil total porosity, n <sup>V</sup> (unitless)	Vadose zone soil water-filled porosity, 0, <sup>V</sup> (cm³/cm³)
₩ORE	ENTER Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for carcinogens, TR	ENTER Terget hozard quotiert for nonceronogens, THQ	ENTER User-defined vandose zone soil vapor permeability, k <sub>c</sub> (cm²)  ENTER Averaging time for carelmogens, AT <sub>G</sub>	ENTER Vadose zone SCS soil type Lookup Sol Parameters  SIC  ENTER Averaging time for noncarinogens, ATNo	Vadose zone soll dry bulk densify, ph (g/cm²)  1,5  ENTER Exposure duration, ED	ENTER Vadose zone soil total porosity, n (unitless)  0.43  ENTER Exposure frequency, EF	Vadose zone soil water-filled porosity, 0, <sup>V</sup> (cm³/cm³)

ABC  Diffusivity in air, Da	Diffusivity in water, D <sub>w</sub>	Henry's law constant at reference temperature,	Henry's law constant reference temperature,	Enthalpy of vaporization at the normal boiling point, $\Delta H_{v,b}$	Normal boiling point, T <sub>B</sub>	Critical temperature,	Organic carbon partition coefficient,	Pure component water solubility, S	Unit risk factor, URF	Reference conc., RfC
(cm²/s)	(cm²/s)	(atm-m <sup>3</sup> /mol)	(°C)	(cal/mol)	(°K)	(°K)	(cm <sup>3</sup> /g)	(mg/L)	_(μg/m <sup>3</sup> ) <sup>-1</sup>	(mg/m³)
7.69E-02	8.44E-06	7.64E-03	25	8,525	411.52	616.20	3.89E+02	1.85E+02	0.0E+00	1.0E-01

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_a^V$ (cm³/cm³)	Vadose zone effective total fluid saturation, Ste (cm³/cm³)	Vadose zone soil intrinsic permeability, ki (cm²)	Vadose zone soil relative air permeability, k <sub>g</sub> (cm²)	Vadose zone soil effective vapor permeability, k <sub>v</sub> (cm²)	Thickness of capillary zone, L <sub>oz</sub> (cm)	Total porosity in capillary zone, n <sub>oz</sub> (cm³/cm³)	Air-filled porosity in capillary zone, θ <sub>a,oz</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Water-filled porosity in capillary zone, $\theta_{w,cz}$ $(cm^3/cm_1^3)$	Floor- wall searn perimeter, X <sub>crack</sub> (cm)	
1112.76	0.280	0.122	1.52E-09	0.937	1.42E-09	192.31	0.481	0.057	0.424	4,000	]
Bidg. ventilation rate, Q <sub>building</sub> (cm³/s)	Area of enclosed space below grade, A <sub>B</sub> (cm <sup>2</sup> )	Crack- to-total area ratio, η (unitless)	Crack depth below grade, Z <sub>crack</sub> (cm)	Enthalpy of vaporization at ave. groundwater temperature, (cal/mol)	Henry's law constant at ave. groundwater temperature, H <sub>Ts</sub> (atm-m <sup>3</sup> /mol)	Henry's law constant at ave. groundwater temperature, H' <sub>TS</sub> (unitless)	Vapor viscosity at ave. soil temperature, µrs (g/cm-s)	Vadose zone effective diffusion coefficient, D <sup>off</sup> <sub>V</sub> (cm <sup>2</sup> /s)	Capillary zone effective diffusion coefficient, D <sup>aff</sup> oz (cm²/s)	Total overall effective diffusion coefficient, Deff (cm²/s)	·
3.39E+04	1.00E+06	5.00E-03	15	10,083	7.22E-03	2.96E-01	1.80E-04	6.00E-03	3.15E-05	1.78E-04	
Diffusion path length, L <sub>d</sub> (cm)	Convection path length, Lp (cm)	Source vapor conc., C <sub>source</sub> (μg/m³)	Crack radius, r <sub>orack</sub> (cm)	Average vapor flow rate into bldg., Q <sub>sol</sub> (cm <sup>3</sup> /s)	Crack effective diffusion coefficient, D <sup>orack</sup> (cm <sup>2</sup> /s)	Area of crack, A <sub>crack</sub> (cm <sup>2</sup> )	Exponent of equivalent foundation Pectet number, exp(Pef)	Infinite source indoor attenuation coefficient, α (unitiess)	Infinite source bldg. conc., С <sub>building</sub> (µg/m³)	Unit risk factor, URF (µg/m³) <sup>-1</sup>	Reference conc., RfC (mg/m³)
(ciii)	(GIII)	(μιμ/111-)	(CIII)	(0111 /3)	(011175)	(CIII )	(unidess)	(unitiess)	(µg/III )	(hrithur)	(mg/m/)
1112.76	15	8.29E+03	1,25	8.33E+01	6.00E-03	5.00E+03	1.17E+12	4.70E-06	3.90E-02	NA	1.0E-01

### RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

### INCREMENTAL RISK CALCULATIONS:

indoor exposure groundwater conc., carcinogen (µg/L)	Indoor exposure groundwater conc., noncarcinogen (µgA.)	Risk-based indoor exposure groundwater conc., (µg/L)	Pure component water solubility, S (µg/L)	Final indoor exposure groundwater conc., (µg/L)
NA.	NA NA	NA	1.85E+05	NA NA

Incremental	Hazard
risk from	quotient
vapor	from vapor
intrusion to	intrusion to
indoor air,	indoor air,
carcinogen	noncarcinogen
(unitless)	(unitless)
NA .	2.2E-04

MESSAGE SUMMARY BELOW:

	Fleset to Defaults	CALCULATE INCRI	YES EMENTAL RISKS F	OR FROM ACTUAL GRI	RATION (enter "X" in "Y OUNDWATER CONCE		DTSC Vapor Intrusion- Interim Final 12/0 (last modified 1/2)	04
Total Chemical Countwaler CAS No. Corp., (numbers only, no dashes)  108383		CONTROL IN THE STATE OF	_		•1			
Chemical groundwater conner, (numbers only, Cy connection), Cy (ug/L) Chemical  TCRS88 2.80E4.01 777-Xylena  ENTER ENTER ENTER ENTER ENTER  Depth Delow grade to bordon of enclosed below grade space floor, (cm) (cm) water table for bordon (cm) (cm) (cm) (cm) (cm) (cm) (cm) (cm)		ENTER	ENTER					
Inc dashes    Capital   Chemical			groundwater					
HORE    ENTER   ENTER   ENTER   ENTER   ENTER   ENTER			С <sub>ж</sub> (µg/L)	c	Chemical	<u>-</u> . "-		
Depth   Delow grade   Depth   Delow grade   Depth   Delow grade   Del		108383	2.80E+01	n	n-Xylene			
below grade to bortion Depth apply and enclosed space floor, below grade space floor, Le Lw tare table, soil type (cm) (cm) (cm) water table PC) (Leme blank to calculate)    Com		ENTER	ENTER	ENTER	ENTER			
Space floor, Lo water table, ooil type (limithy above T <sub>S</sub> Q <sub>2</sub> )  (cm) (cm) water table (°C) (Lum)  15 1127.76 SIC 24 5  ENTER Vadose zone User-defined SCS vandoes zone Vadese zone Vadese zone Vadese zone Soil type (used to estimate of estimate soil vapor permeability) (cm²)  ENTER Vadose zone Vadese zon		below grade to bottom	Depth		Average acil/		Average vapor	
MORE  Vadose zone SGS Vandose zone Vadose zone Vadose zone SGS Vandose zone Vandose zon		space floor, L <sub>F</sub>	to water table, L <sub>WT</sub>	soli type directly above	temperature, $T_9$		ave blank to catcul Q	
## ENTER   SCS   Vandose zone   Vadose zone   SCS   Soil type   S		(om)	(cm)	water table	(°C)	- 17	(L/m)	-
ENTER Vadose zone SCS Soil type Scil vandose zone Vadose zone SCS Soil type Soil vapor Scil vapor Permeability)  ENTER ENTER ENTER SCS Soil type Soil vapor SCS Soil type Soil vapor Permeability) Soil vapor Permeability) SIC  ENTER ENTER ENTER ENTER ENTER SIC  SIC  1.5  0.43  0.16   IMORE Target		15	1127.76	SIC	24	7	5	1
ENTER ENTER ENTER ENTER ENTER ENTER  Target Target Depart First for quotient for lime for time for carolinggens, noncarolinggens, quiretion, trequency, TR THQ ATC ATMO ED EF (unitless) (unitless) (yis) (yis) (yis) (yis) (days/yr)								
ENTER ENTER ENTER ENTER ENTER ENTER  Target Target hazard Averaging Averaging risk for quotient for time for Exposure Exposure caroinogens, noncareinogens, noncareinogens, duration, trequency, TR THQ AT <sub>Q</sub> AT <sub>NQ</sub> ED EF (unit(ess) (unit(ess) (vrs) (vrs) (days/vr)		Vadose zone SCS soil type (used to estimate soil vapor	OR .	User-defined vandose zene soil vapor permeability, k <sub>v</sub>	Vadose zone SCS soil type Lookup Soil	Vadose zone soil dry bulk density, pbV	Vadose zone soil total porosity, n <sup>V</sup>	Vadose zone soil water-fille porosity, θ <sub>w</sub> V
TR THQ AT <sub>O</sub> AT <sub>NO</sub> ED EF (unitless) (yrs) (yrs) (yrs) (days/yr)  1.0E-06 1 70 30 25 250		Vadose zone SCS soil type (used to estimate soil vapor permeability)	OR ]	User-defined vandose zene soil vapor permeability, k <sub>v</sub>	Vadose zone SCS soil type Lorkup Soil Parameters	Vadose zone soil dry bulk density, pb <sup>V</sup> (g/cm³)	Vadose zone soil total porosity, n <sup>V</sup> (unitless)	Vadose zon soil water-till porosity, 6,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
1.0E-06 1 70 30 25 250	MORE	Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for	ENTER Target hazard guotient for	User-defined vandoes zone soil vapor permeability, k <sub>v</sub> (om²)  ENTER Averaging lime for	Vadose zone SCS soil type Locksp Soil Parameters SIC  ENTER Avetaging time for	Vadose zone soil dry bulk density, pb (g/cm²)	Vadose zone soil total porosity, n (unitless)  0.43  ENTER Exposure	Vadose zon soil water-fille porosity, 6, <sup>V</sup> (cm³/cm³)
	MORE	Vadose zone SCS soil type (used to estimate soil vapor permeability) SIC  ENTER Target risk for caroinogens, TR	ENTER Target hazard quotient for noncaremogens, THQ	User-defined vandoes zone soil vapor permeability, k <sub>v</sub> (cm²)  ENTER Averaging lime for caroinogens, ATc	Vadose zone SCS soil type Lockup Soil Parameters  SIC  ENTER Averaging time for noncarinogens, AT <sub>NO</sub>	Vadose zone soil dry bulk density, po (g/cm³)  1.5  ENTER Exposure duretion, ED	Vadose zone soil total porosity, n <sup>V</sup> (unitless)  0.48  ENTER  Exposure frequency, EF	Vadose zon soil water-filla potosity, 6,, <sup>V</sup> (cm³/cm³)
	MORE	Vadose zone SCS soil type (used to estimate soil vapor permeability)  SIC  ENTER Target risk for caroinogens, TR (unitless)	ENTER Target bazard quotient for noncareinogens, THQ (unitless)	User-defined vandoes zone soil vapor permeability, k <sub>v</sub> (cm²)  ENTER Averaging time for careinogens, AT <sub>C</sub> (yis)	Vadose zone SCS soil type Lockup Soil Parameters SIC  ENTER Averaging time for noncarcinogens, AT <sub>INC</sub> (yrs)	Vadose zone soil dry bulk density, pb (g/cm²)  1.5  ENTER  Exposure duretion, ED (yre)	Vadose zone soil total porosity, nV (unitless)  0.43  ENTER  Exposure frequency, EF (days/yr)	Vadose zone soil water-fills porosity, 6,, <sup>V</sup> (cm³/cm³)

ABC										
		Henry's law constant	Henry's law constant	Enthalpy of vaporization at	Normal		Organic carbon	Pure	I Ita	
Diffusivity	Diffusivity	at reference	reference	the normal	boiling	Critical	partition	component water	Unit risk	Reference
in air,	in water,	temperature,	temperature,	boiling point,	point,	temperature,	coefficient,	solubility,	factor,	conc.,
$D_a$	$D_{w}$	Н	TR	$\Delta H_{v,b}$	TΒ	Tc	K₀₀	s	URF	RfC
(cm²/s)	(cm²/s)	(atm-m³/mol)	(°C)	(cal/mol)	(°K)	(°K)	(cm³/g)	(mg/L)	(µg/m³) <sup>-1</sup>	(mg/m³)
						•	•			
7.00E-02	7.80E-06	7.32E-03	25	8,523	412.27	617.05	4.07E+02	1.61E+02	0.0E+00	1.0E-01

Source- building separation, L <sub>T</sub> (cm)	Vadose zone soil air-filled porosity, $\theta_a^{V}$ (cm <sup>3</sup> /cm <sup>3</sup> )	Vadose zone effective total fluid saturation, S <sub>te</sub> (cm³/cm³)	Vadose zone soil intrinsic permeability, ki (cm²)	Vadose zone soil relative air permeability, k <sub>rg</sub> (cm <sup>2</sup> )	Vadose zone soil effective vapor permeability, k <sub>r</sub> (cm²)	Thickness of capillary zone, Loz (cm)	Total porosity in capillary zone, n <sub>oz</sub> (cm³/cm³)	Air-filled porosity in capillary zone, θ <sub>a,oz</sub> (cm <sup>3</sup> /cm <sup>3</sup> )	Water-filled porosity in capillary zone, θ <sub>w.cz</sub> (cm³/cm³)	Floor- wall seam perimeter, X <sub>crack</sub> (cm)	a.
1112.76	0.280	0.122	1.52E-09	0.937	1.42E-09	192.31	0.481	0.057	0.424	4,000	]
Bldg. ventilation rate,	Area of enclosed space below grade,	Crack- to-total area ratio,	Crack depth below grade,	Enthalpy of vaporization at ave. groundwater temperature,	Henry's law constant at ave. groundwater temperature,	Henry's law constant at ave. groundwater temperature,	Vapor viscosity at ave. soil temperature,	Vadose zone effective diffusion coefficient,	Capillary zone effective diffusion coefficient,	Total overall effective diffusion coefficient,	
Q <sub>building</sub>	A <sub>B</sub>	η	Z <sub>crack</sub>	ΔH <sub>v,7S</sub>	H <sub>TS</sub>	H' <sub>TS</sub>	μ <sub>TS</sub>	D <sup>eff</sup> <sub>V</sub>	D <sup>eff</sup> oz	D <sup>eff</sup> <sub>T</sub>	
(cm <sup>3</sup> /s)	(cm²)	(unitless)	(cm)	(cal/mol)	(atm-m³/mol)	(unitless)	(g/cm-s)	(cm²/s)	(cm²/s)	(cm²/s)	=
3.39E+04	1.00E+06	5.00E-03	15	10,090	6.91E-03	2.84E-01	1.80E-04	5,46E-03	2.90E-05	1.64E-04	]
Diffusion path length, L <sub>d</sub>	Convection path length, L <sub>p</sub>	Source vapor conc., C <sub>source</sub>	Crack radius, r <sub>crack</sub>	Average vapor flow rate into bldg., Q <sub>soil</sub>	Crack effective diffusion coefficient, Derack	Area of crac <b>k</b> , A <sub>crack</sub>	Exponent of equivalent foundation Peclet number, exp(Pe <sup>f</sup> )	Infinite source indoor attenuation coefficient,	Infinite source bldg. conc., C <sub>building</sub>	Unit risk factor, URF	Reference conc., RfC
(cm)	(cm)	(μg/m <sup>3</sup> )	(cm)	(cm³/s)	(cm²/s)	(cm²)	(unitless)	(unitless)	(μg/m³)	(µg/m³) <sup>-1</sup>	(mg/m³)
1112.76	15	7.94E+03	1.25	8.33E+01	5.46E-03	5,00E+03	1,80E+13	4.34E-06	3.44E-02	NA NA	1.0E-01

# RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

# INCREMENTAL RISK CALCULATIONS:

Indoor exposure groundwater conc., carcinogen (µg/L)	Indoor exposure groundwater conc., noncarcinogen (µg/L)	Risk-based indoor exposure groundwater conc., (µg/L)	Pure component water solubility, S (µg/L)	Final indoor exposure groundwater conc., (µg/L)
NA.	NA	NA	1.61E+05	NA

Incremental	Hazard
risk from	quotient
vapor	from vapor
intrusion to	intrusion to
Indoor air,	indoor air,
carcinogen	noncarcinogen
(unitless)	(unitless)
NA	2.0E-04

MESSAGE SUMMARY BELOW:

# **APPENDIX D ProUCL Statistics**

# General Statistics

Data File C:\Documents and Se	ttings/Admini	strator\De Variable: Metals in Soil Sample	es <= 1 -10 ft		
Antimony		тиль макажана править признучения до политильных избания и политильных	A A MINISTER AND A STATE OF THE		
Raw Statistics		Normal Distribution Test	0.054070		
Number of Valid Samples	69	Lilliefors Test Statisitic	0.354973		
Number of Unique Samples		Lilliefors 5% Critical Value	0.106662		
Minimum mg/kg	0.445	Data not normal at 5% significance level	gija Liui, waxi wa wa wa wa wa ma wa ma wa ma wa		
Maximum mg/kg	1				
Mean	0.686377	95% UCL (Assuming Normal Distrib			
Median	0.5	Student's-t UCL	0.732823		
Standard Deviation	0.231359				
Variance	0.053527	Gamma Distribution Test			
Coefficient of Variation	0.337073	A-D Test Statistic	8.653075		
Skewness	0.437472	A-D 5% Critical Value	0.751155		
		K-S Test Statistic	0.356059		
Gamma Statistics		K-S 5% Critical Value	0.107233		
k hat	9.369775	Data do not follow gamma distribution			
k star (bias corrected)	8.972055	at 5% significance level			
Theta hat	0.073254				
Theta star	0.076502	95% UCLs (Assuming Gamma Distribu	tion)		
nu hat	1293.029	Approximate Gamma UCL	0.734243		
nu star	1238.144	Adjusted Gamma UCL	0.735292		
Approx.Chi Square Value (.05)	1157.428	Addition delimina dollar anno anno anno anno anno anno anno an	0.700202		
Adjusted Level of Significance	0.046522	Lognormal Distribution Test	as annua provinciani exchine vericani		
4 1 1 1 1 1 1 1	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Lilliefors Test Statisitic	0.353155		
Adjusted Chi Square Value	1155.777	minutes and a subject in the same of the subject in			
Landan Armanda Markatian		Lilliefors 5% Critical Value	0.106662		
Log-transformed Statistics	0.000004	Data not lognormal at 5% significance le	vel		
Minimum of log data	-0.809681				
Maximum of log data	0	95% UCLs (Assuming Lognormal Dist			
Mean of log data	-0.43064	95% H-UCL	0.735919		
Standard Deviation of log data	0.328428	95% Chebyshev (MVUE) UCL	0.806475		
Variance of log data	0.107865	97.5% Chebyshev (MVUE) UCL	0.858798		
Annue au Bidula-aliunko aldulki Albaharada etaku Araspanina antaria a jama a manua a j		99% Chebyshev (MVUE) UCL	0.961576		
		95% Non-parametric UCLs			
		CLT UCL	0.73219		
		Adj-CLT UCL (Adjusted for skewness)	0.733757		
		Mod-t UCL (Adjusted for skewness)	0.733067		
		Jackknife UCL	0.732823		
		Standard Bootstrap UCL	0.732574		
		Bootstrap-t UCL	0.734743		
RECOMMENDATION	en de l'entre constitue de l'entre de l'entr	Hall's Bootstrap UCL	0.73299		
Data are Non-parametric (0	0.05)	Percentile Bootstrap UCL 0.73			
		BCA Bootstrap UCL	0.737101		
Use Student's-t UCL					
or Modified-t UCL			0.807783 0.860315		
OF MOUNTAIN		97.5% Chebyshev (Mean, Sd) UCL	CONTRACTOR MANUAL PROPERTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE		
		99% Chebyshev (Mean, Sd) UCL	0.963505		

Data File   C:\Documents and Se	ettings\Admini	strator\De Variable: Metals in Soil Sample	es <= 1 -10 ft
Arsenic			and an house of roution in with the fit
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	69	Lilliefors Test Statisitic	0.193203
Number of Unique Samples	39	Lilliefors 5% Critical Value	0.106662
Minimum mg/kg	2.5	Data not normal at 5% significance level	
Maximum mg/kg	35		
Mean	8.410145	95% UCL (Assuming Normal Distribu	ution)
Median	7	Student's-t UCL	9.779962
Standard Deviation	6.823427		
Variance	46.55916	Gamma Distribution Test	A STATE OF THE STA
Coefficient of Variation	0.811333	A-D Test Statistic	1.902763
Skewness	2.062922	A-D 5% Critical Value	0.763201
The second secon		K-S Test Statistic	0.171728
Gamma Statistics		K-S 5% Critical Value	0.108598
k hat	2.023672	Data do not follow gamma distribution	
k star (bias corrected)	1.945348	at 5% significance level	in acadina, sine adinas, adicamento
Theta hat	4.155883		
Theta star	4.323207	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	279.2668	Approximate Gamma UCL	9.752482
nu star	268.4581	Adjusted Gamma UCL	9.783235
Approx.Chi Square Value (.05)	231.5074	Adjusted daliilla doc	0.700200
Adjusted Level of Significance	0.046522	Lognormal Distribution Test	(distribute the rest distribute the elements from
Adjusted Chi Square Value	uniforment and property and an extension from	Lilliefors Test Statisitic	0.191429
Adjusted Crij Square Value	230.7796	ter erm av mitti bratten udd farfettaritate stillet desire britete kan brer brite britate mitte av megetid in stilli marimise mun av	0.106662
Los transfermed Challatian		Lilliefors 5% Critical Value	
Log-transformed Statistics	0.016001	Data not lognormal at 5% significance lev	/ei
Minimum of log data	0.916291	0.50/ (101 - /4 )   Dish	
Maximum of log data	3,555348	95% UCLs (Assuming Lognormal Dist	
Mean of log data	1.862464	95% H-UCL	10.08103
Standard Deviation of log data	0.733143	95% Chebyshev (MVUE) UCL	11.96039
Variance of log data	0.537499	97.5% Chebyshev (MVUE) UCL	13.50789
a summissionmes suurus vaariksis suuski astalaise (		99% Chebyshev (MVUE) UCL	16.54766
ere Perrena natura galan		95% Non-parametric UCLs	
Of the transfer of the second	the property of the section of the section of the	CLT UCL	9.7613
	······································	Adj-CLT UCL (Adjusted for skewness)	9.97928
		Mod-t UCL (Adjusted for skewness)	9.813963
		Jackknife UCL	9.779962
	a as an increasing a second as a second a second	Standard Bootstrap UCL	9.724815
		Bootstrap-t UCL	10.06267
RECOMMENDATION		Hall's Bootstrap UCL	10.04759
Data are Non-parametric ((	0.05)	Percentile Bootstrap UCL	9.844928
The same same same same same same same sam	Edward Anna Anna Anna Anna Anna Anna Anna Ann	BCA Bootstrap UCL	10.03913
Use 95% Chebyshev (Mean,	84/11/01	95% Chebyshev (Mean, Sd) UCL	11.99074
OSC 3078 CHEDISHEV (MEAN)	771.225	97.5% Chebyshev (Mean, Sd) UCL	13.54006
		99% Chebyshev (Mean, Sd) UCL	
manner a sement a minera directante semente de manera de		99 /6 OHEDYSHEV (MEAN, 30) OCL	16.58341

<= 1 -10	als in Soil Samples	Variable: Met	istrator\De	ettings\Admin	C:\Documents and Se	Data File
		Constitute development of the control of the contro	i ki ini aliki da alan kan da alan 44 - 14 - 44 - 4			Barium
····	ution Test	Normal Distrib	·····		law Statistics	
0.15555	annus alunas sun es sun meneronnus rem en eres es-	Test Statisitic	Lilliefo	69	Valid Samples	
0.10666	ue	5% Critical Val	Lilliefo	21	Unique Samples	
	significance level	t normal at 5% :	Data n	42	mg/kg	durandland open and a sea open
parameter section and the sect				230	mg/kg	Maximum
ion)	ig Normal Distribut	6 UCL (Assumir	95	153.8696		Mean
161.840		s-t UCL	Studen	160		Median
				39.70661	Deviation	Standard D
	stribution Test	Gamma Di		1576.615		Variance
2.84092		t Statistic	A-D Te	0.258054	of Variation	Coefficient
0.75051	The same of the second	Critical Value	A-D 59	-0.818054		Skewness
0.18658		t Statistic	K-S Te			
0.1071	का करना है के प्रतिकृति है जिसके का का स्थान है जिसके की कि उनके	Critical Value	K-S 5%	and the last to the field of the feet of the control of the contro	Gamma Statistics	74.00.000000000000000000000000000000000
	na distribution	not follow gami	Data d	11.3876		k hat
qua.zima a.iiiia a.iiiviia	-te Arthurus -terestat Briestat Britis Al III (Bellin) A. William	gnificance level	A SUPERA MARKET AND THE PROPERTY OF THE PARTY OF THE PART	10.90215	corrected)	k star (bjas
*********************	e des regularismente administrativo en la resulta diberim, de colla armade diment a liberatio a l	Margaria de la comitación	nadrametralliamintollaaninisteraa	13.51202		Theta hat
on)	Gamma Distribution	CLs (Assuming	95% !	14.11369		Theta star
163.555		nate Gamma L		1571.489		nu hat
163.766		d Gamma UCL	- A	1504.497	iter er mem er men setten med kutturer mi minem men met stelle kantalasia. Det iki	nu star
	<u>,,,, ,,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>	a damma doc	, rajaot	1415.402	i Square Value (.05)	والمراجع والم والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراج
eun ox autora (núin a átrach)	istribution Test	Lognormal D	**************************************	0.046522	evel of Significance	
0.20421	iotribution 1 cot	Test Statisitic	l illiefor	1413.575	hi Square Value	
0.10666	رود به رود و در به در در داره و در	5% Critical Val	and the fact of the Ballette Hardette	Manager and Manager property	THE STATE OF THE S	, tajastoa o
<del></del>	% significance leve			T	nsformed Statistics	Log-tran
FL Number substantian in a Marketinia	70 Signification lave	i logiloittiai at o	Dala II	3.73767	Annual and the second s	Minimum o
oution)	g Lognormal Distri	ICLe (Accumin	06%	5.438079		Maximum o
166.736	y LOGINITIAL DISTI	Wist district the Samuel State of the Samuel S	95% H	4.991556		Mean of lo
182,788	N DOL	ebyshev (MVUI	transfer the second and the second	0.329946	g cata Deviation of log data	0 44 6-0 40 EPOECO DE PRODUCCIONA
194,696		hebyshev (MV)		0.108864	The state of the s	Variance of
218.086	<del></del>	ebyshev (MVUI		1 0.100004	I IVY Udla	variance v
210,000	) OOL	enasilea (latant	3576 U		WWW.D.W.M.(L	THE SECURE SHEET SECURIOR SHEET
en angang maka innastratorini disabili	etric UCLs	95% Non-paran				
161.732	Hither Commission County Instruction Let et accept the hit Hither Miller	**************************************	CLT U	and the second s	de la la companya de la companya del companya de la companya del companya de la c	annia   12   12   12   12   13   13   13   14   14   14   14   14   14
161.229	for skewness)	UCL (Adjusted				***************************************
161.762	in the shall be shall be shall be so all bear on the grale the warms	CL (Adjusted fo	Handles to walk in winding and	المنظر المناهد		
161.840			Jackkr			
161.636	anne ana la anni ena ma la alterna la jame i ma le lina	Wide de Allin 1994 Malaballation befollow bear dimon	normal market Mich Wide		The second secon	
161.352		······································	<del></del>			
161.628	A ARK				RECOMMENDATION	
161.536	`.		and of the last of the last of the last of	105)	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	and a second
160.652	/ L.					MAIC
174.705	64) TICI	<del> </del>			Ident's till!	Hea Ct.
and an adole and service an arrangement	Manging and an amount of the burning				the property of the best of th	dia dine di sona andi a sanding
183.721	communication of the second	White to the transfer of the transfer of the same of t			UCL	OI MIOGI
201.431	, Saj UCL	ebysnev (Mean	99% U	in the second second second	The second secon	nera mazoviera a mesauli
161. 161. 161. 161. 160. 174.	CL , Sd) UCL In, Sd) UCL	d Bootstrap UC  p-t UCL  potstrap UCL  ile Bootstrap UC  otstrap UCL  ebyshev (Mean Chebyshev (Mean ebyshev (Mean	Standa Bootst Hall's I Percer BCA B 95% C 97.5%	0.05)	RECOMMENDATION are Non-parametric (0	Data Use Stu

Beryllium			
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	69	Lilliefors Test Statisitic	0.496579
Number of Unique Samples	11	Lilliefors 5% Critical Value	0.106662
Minimum mg/kg	0.375	Data not normal at 5% significance level	
Maximum mg/kg	1.8		
Mean	0.561232	95% UCL (Assuming Normal Distribu	
Median	0.5	Student's-t UCL	0.619504
Standard Deviation	0.29027	жаны жангжанд маны жанимине инпитити и ингезерде жады жаны мизуктин жане иепитите	
Variance	0.084257	Gamma Distribution Test	
Coefficient of Variation	0.517202	A-D Test Statistic	14.93326
Skewness	3.244939	A-D 5% Critical Value	0.752723
м энглом ( 16) 4 ( ) размы чить поволе ( муника чить с мы читим негия на меняцию эксплонения		K-S Test Statistic	0.482023
Gamma Statistics	ang maga managat kabanana kan met katalah mantal penta	K-S 5% Critical Value	0.107383
k hat	7.047646	Data do not follow gamma distribution	
k star (bias corrected)	6.750888	at 5% significance level	
Theta hat	0.079634	anijana annia ana akakakannia annia anta kikilika M. Milik Mijirajiya qiyiyya qiyya anna ana akakikikiliki kal	
Theta star	0.083135	95% UCLs (Assuming Gamma Distribut	
nu hat	972.5751	Approximate Gamma UCL	0.60672
nu star	931.6226	Adjusted Gamma UCL	0.60773
Approx.Chi Square Value (.05)	861.7624	ene witanie spanie gina groupopopolity olito do esta miniemon nemenemente entre esta entre entre esta entre es	AND A STATE OF THE
Adjusted Level of Significance	0.046522	Lognormal Distribution Test	
Adjusted Chi Square Value	860.3407	Lilliefors Test Statisitic	0.46448
	.,	Lilliefors 5% Critical Value	0.106662
Log-transformed Statistics		Data not lognormal at 5% significance lev	el
Minimum of log data	-0.980829	manus la construição la los de construidos e constituidos de c	
Maximum of log data	0.587787	95% UCLs (Assuming Lognormal Distr	
Mean of log data	-0.650241	95% H-UCL	0.59196
Standard Deviation of log data	0.331845	95% Chebyshev (MVUE) UCL	0.64924
Variance of log data	0.110121	97.5% Chebyshev (MVUE) UCL	0.69175
е сумне режений его (фідь) ў «фоніў міцыманнямі крадовам мож як міння ву кранцька опшна		99% Chebyshev (MVUE) UCL	0.775262
		95% Non-parametric UCLs	
		CLT UCL	0.6187
anje sa mnisti sa mnisti postinima kusuta sa tama no manono manono sa tambo sa s	er i de ter de la lacite de la lacite de la company de la	Adj-CLT UCL (Adjusted for skewness)	0.633297
		Mod-t UCL (Adjusted for skewness)	0.62177
		Jackknife UCL	0.61950
		Standard Bootstrap UCL	0.61857
	. L	Bootstrap-t UCL	0.64233
RECOMMENDATION		Hall's Bootstrap UCL	0.62067
Data are Non-parametric (C	,05)	Percentile Bootstrap UCL	0.62166
		BCA Bootstrap UCL	0.63659
Use Student's-t UCL	n som en symmetrium menne er symmetri	95% Chebyshev (Mean, Sd) UCL	0.71355
or Modified-t UCL	· · · · · · · · · · · · · · · · · · ·	97.5% Chebyshev (Mean, Sd) UCL	0.7794
	1	99% Chebyshev (Mean, Sd) UCL	0.90892

Data File C:\Documents and Se	ttings\Admin	istrator\De Variable: Metals in Soil Sample	s <= 1 -10 ft
Cadmium	PARTIE II I I I I I I I I I I I I I I I I I		-d-1990-1911-infrate-incomment
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	69	Lilliefors Test Statisitic	0.503175
Number of Unique Samples	13	Lilliefors 5% Critical Value	0.106662
Minimum mg/kg	0.255	Data not normal at 5% significance level	
Maximum mg/kg	5		
Mean	0.837609	95% UCL (Assuming Normal Distribu	
Median	0.5	Student's-t UCL	1.061171
Standard Deviation	1.113623		ometel lypite-lifet i pi i si belim i tera an areany manana amana
Variance	1.240157	Gamma Distribution Test	ayay
Coefficient of Variation	1.329527	A-D Test Statistic	15.59199
Skewness	2.78048	A-D 5% Critical Value	0.770293
	apporters to territorio de la composición	K-S Test Statistic	0.494071
Gamma Statistics		K-S 5% Critical Value	0.109403
k hat	1.438467	Data do not follow gamma distribution	
k star (bias corrected)	1.385587	at 5% significance level	
Theta hat	0.582292		
Theta star	0.604515	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	198.5085	Approximate Gamma UCL	0.999656
nu star	191.211	Adjusted Gamma UCL	1.003428
Approx.Chi Square Value (.05)	160.2152		
Adjusted Level of Significance	0.046522	Lognormal Distribution Test	
Adjusted Chi Square Value	159.6129	Lilliefors Test Statisitic	0.456217
State		Lilliefors 5% Critical Value	0.106662
Log-transformed Statistics		Data not lognormal at 5% significance lev	el
Minimum of log data	-1.366492		
Maximum of log data	1.609438	95% UCLs (Assuming Lognormal Distr	ibution)
Mean of log data	-0.563439	95% H-UCL	0.872896
Standard Deviation of log data	0.713181	95% Chebyshev (MVUE) UCL	1.032495
Variance of log data	0.508628	97.5% Chebyshev (MVUE) UCL	1.163066
	· ·	99% Chebyshev (MVUE) UCL	1.419546
		95% Non-parametric UCLs	ngang-nya na mang taun manananan mananan mananan
		CLT UCL	1.058125
		Adj-CLT UCL (Adjusted for skewness)	<b>1</b> .106075
		Mod-t UCL (Adjusted for skewness)	1.06865
	Polite interferi internation	Jackknife UCL	1.061171
		Standard Bootstrap UCL	1.060364
		Bootstrap-t UCL	1.145654
RECOMMENDATION		Hall's Bootstrap UCL	1.066223
Data are Non-parametric (0	.05)	Percentile Bootstrap UCL	1.072246
Parent for an extension to the control of the contr		BCA Bootstrap UCL	1.099203
Use 95% Chebyshev (Mean, S	3d) UCL	95% Chebyshev (Mean, Sd) UCL	1.421982
		97.5% Chebyshev (Mean, Sd) UCL	1.674841
The second secon		99% Chebyshev (Mean, Sd) UCL	2.171534
		annum menga menungan menungan dan kelalahan dan dalam dan menungan	Andread of the Administration of the section of the

Data File C:\Documents and Se	ettings\Admini	strator\De Variable: Metals in Soil Sample	s <= 1 -10 ft
Chromium			
Raw Statistics		Normal Distribution Test	***************************************
Number of Valid Samples	69	Lilliefors Test Statisitic	0.170463
Number of Unique Samples	31	Lilliefors 5% Critical Value	0.106662
Minimum mg/kg	8	Data not normal at 5% significance level	
Maximum mg/kg	71	บระบบกลงเคยสายเมินแบบ แบบกรรมนะ แบบกรรม แบบการนั้น แบบครา <mark>ชก็สะสายกร</mark> ชาการ สมุทธราการ สายกรรมการ สายกรรมการ ร	uhimisung summenum olich (P.
Mean	30.47826	95% UCL (Assuming Normal Distribu	tion)
Median	31	Student's-t UCL	32.78463
Standard Deviation	11.48862	<del></del>	
Variance	131.9885	Gamma Distribution Test	NOTICE STATE OF THE STATE OF TH
Coefficient of Variation	0.376945	A-D Test Statistic	2.810566
Skewness	0.74859	A-D 5% Critical Value	0.753135
	to the transfer of the transfe	K-S Test Statistic	0.192975
Gamma Statistics	ura ministrativo erativos e divistos m	K-S 5% Critical Value	0.107422
k hat	6.43741	Data do not follow gamma distribution	anterior de la company de la c
k star (bias corrected)	6.167184	at 5% significance level	прододорожника проколирано в
Theta hat	4.734554	- The state of the	
Theta star	4.942006	95% UCLs (Assuming Gamma Distributi	on)
nu hat	888.3625	Approximate Gamma UCL	33.07085
nu star	851.0714	Adjusted Gamma UCL	33.1281
Approx.Chi Square Value (.05)	784.3515		1
Adjusted Level of Significance	0.046522	Lognormal Distribution Test	and the section of the section of the section of the
Adjusted Chi Square Value	782.9961	Lilliefors Test Statisitic	0.219861
Adjusted Offi Oquate Value	702.0001	Lilliefors 5% Critical Value	0.106662
Log-transformed Statistics		Data not lognormal at 5% significance lev	
Minimum of log data	2.079442	Data in the following and the second	THE PROPERTY OF THE PARTY OF TH
Maximum of log data	4.26268	95% UCLs (Assuming Lognormal Distr	ibution)
Mean of log data	3.337337	95% H-UCL	33.89818
Standard Deviation of log data	0.428657	95% Chebyshev (MVUE) UCL	38.01074
Variance of log data	0.183747	97.5% Chebyshev (MVUE) UCL	41.12753
Yananes of Jog Gala	0.100747	99% Chebyshev (MVUE) UCL	47.24987
ghise a Abriel bridge behavior belavior belavior exposered entre entre exposered in the exposer	NAME OF THE OWNER, NAME OF THE O	The second secon	
		95% Non-parametric UCLs	ettimiselis, etiittimiseletti lisel ettivilii 1940-1940 keeliseletti keeliseletti keeliseletti keeliseletti ke
		CLT UCL	32.75321
		Adj-CLT UCL (Adjusted for skewness)	32.88639
The second secon		Mod-t UCL (Adjusted for skewness)	32.8054
		Jackknife UCL	32.78463
		Standard Bootstrap UCL	32.75334
		Bootstrap-t UCL	32.94582
RECOMMENDATION		Hall's Bootstrap UCL	33.19777
Data are Non-parametric (0	).05)	Percentile Bootstrap UCL	32.71014
anne te de de la primeira de la manda de de despete de de de de de de la mente de la que de la mente de la comb		BCA Bootstrap UCL	32.95652
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	36,50691
or Modified-t UCL	v de en reservation de production de la section de la constant de	97.5% Chebyshev (Mean, Sd) UCL	39.11552
		99% Chebyshev (Mean, Sd) UCL	44.23961
As a mineral anamini at strains, which is a mineral as a		mana a ini a	

Data File C:\Documents and Se	ttingo\ A dmir	nistrator\De Variable: Metals in Soil Samples	1 -10 ft
Hexavalent Chromium	ittings/Admii	ilstrator/Det variable.   Metals in 3011 Samples	S <= 1 - 10 II
Raw Statistics		Normal Distribution Test	
energical tribital Middle A Mi	40	24/24/24/24/24/24/24/24/24/24/24/24/24/2	0.000025
Number of Valid Samples	49	Shapiro-Wilk Test Statisitic	0.200835
Number of Unique Samples	11	Shapiro-Wilk 5% Critical Value	0.947
Minimum mg/kg	0.115	Data not normal at 5% significance level	and become many of the property
Maximum mg/kg	9.5		y untu quantique constituti de la la constituti de la con
Mean	0.473163	95% UCL (Assuming Normal Distribut	de-1/11/6-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-
Median	0.25	Student's-t UCL	0.790836
Standard Deviation	1.325827	antinan mianoronan inoon violahilikikikikikikikikikikikikikikikikikiki	
Variance	1.757816	Gamma Distribution Test	
Coefficient of Variation	2.802049	A-D Test Statistic	12.47603
Skewness	6.851736	A-D 5% Critical Value	0.777098
		K-S Test Statistic	0.462795
Gamma Statistics		K-S 5% Critical Value	0.129999
k hat	1.09359	Data do not follow gamma distribution	
k star (bias corrected)	1.040241	at 5% significance level	
Theta hat	0.43267	and the control of th	
Theta star	0.454859	95% UCLs (Assuming Gamma Distribution	on)
nu hat	107.1718	Approximate Gamma UCL	0.60565
nu star	101.9436	Adjusted Gamma UCL	0.610225
Approx.Chi Square Value (.05)	79.64328		
Adjusted Level of Significance	0.045102	Lognormal Distribution Test	ega (gasagan ispejaja) i-lavia ar a in manilira
Adjusted Chi Square Value	79.04614	Shapiro-Wilk Test Statisitic	0.524986
of printer is a manufactured and the printer of the		Shapiro-Wilk 5% Critical Value	0.947
Log-transformed Statistics		Data not lognormal at 5% significance leve	4
Minimum of log data	-2.162823	The second secon	
Maximum of log data	2.251292	95% UCLs (Assuming Lognormal Distri	hution)
Mean of log data	-1.270761	95% H-UCL	0.414145
Standard Deviation of log data	0.641202	95% Chebyshev (MVUE) UCL	0.490821
Variance of log data	0.41114	97.5% Chebyshev (MVUE) UCL	0.554808
warrance or log data	0,41114	99% Chebyshev (MVUE) UCL	0.680497
		33 / 6 OHEDYSHEV (INVOL) OOL	0.000497
		95% Non-parametric UCLs	te der Arreit standaren et konda serreiten sessey som a per seguipus se
N 100 11 11 11 11 11 11 11 11 11 11 11 11	and the state of t	CLT UCL	0.784705
		Adj-CLT UCL (Adjusted for skewness)	0.982799
albituri bardin maniferi maniferi maniferi i bardi da bardi a shekara da maniferi maniferi maniferi maniferi m		Mod-t UCL (Adjusted for skewness)	0.821735
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Jackknife UCL	0.790836
		Standard Bootstrap UCL	0.765568
The second state of the se		Bootstrap-t UCL	3.33909
RECOMMENDATION	1	Hall's Bootstrap UCL	2.03274
THE PERSON AND ADDRESS OF THE RESIDENCE OF THE PERSON AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON	ΛE\	Percentile Bootstrap UCL	the second section of the second of the seco
Data are Non-parametric (0		file total for all bloods and in white of a management commensuration management of the file of refer to the recovery of all managements are managements and the file of the second of of the secon	0.844796
	) II O1	BCA Bootstrap UCL	1.061224
Use 95% Chebyshev (Mean, S	sa) UCL	95% Chebyshev (Mean, Sd) UCL	1.298755
Special control of trade and p. Bell at his sea and an include an include an include and an include an include an include and an include an inc		97.5% Chebyshev (Mean, Sd) UCL	1.65599
	ļ	99% Chebyshev (Mean, Sd) UCL	2.357707

Data File C:\Documents and Se	ettinas\Admini	strator\De Variable: Metals in Soil Sample	s <= 1 -10 ft
Cobalt	Tingo v tarriiri	onatorizo Variazio. Motaro il com campio	
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	69	Lilliefors Test Statisitic	0.168844
Number of Unique Samples	16	Lilliefors 5% Critical Value	0.106662
Minimum mg/kg	5	Data not normal at 5% significance level	
Maximum mg/kg	32		and the stand or mander of the standard or
Mean	12.61739	95% UCL (Assuming Normal Distribu	ıtion)
IMedian	12.01703	Student's-t UCL	13.34751
Standard Deviation	3.636941	Oldder it 8-t OOL	1 10.0-701
Variance	13.22734	Gamma Distribution Test	ideolo, lol leitus relabuszelaszerendárezerendozeszeszes
Coefficient of Variation	0.288248	A-D Test Statistic	2.415508
Skewness	2.008573	A-D 7est Statistic A-D 5% Critical Value	0.750223
ONEWHESS	2.006573		0.730223
And Andrew Construction and An		K-S Test Statistic	-1 5 1 telested elidition was resemblished
Gamma Statistics	10.01050	K-S 5% Critical Value	0.107118
k hat	13.21253	Data do not follow gamma distribution	
k star (bias corrected)	12.64773	at 5% significance level	managera na neo sudicione e de conscionence de colodidade codo de distributo de Adello
Theta hat	0.954957		
Theta star	0.997601	95% UCLs (Assuming Gamma Distribut	
nu hat	1823.329	Approximate Gamma UCL	13.35219
nu star	1745.387	Adjusted Gamma UCL	13.36819
Approx.Chi Square Value (.05)	1649.334		ion chrisen cureano mere more en ma
Adjusted Level of Significance	0.046522	Lognormal Distribution Test	to the Santon the to 1 to
Adjusted Chi Square Value	1647.36	Lilliefors Test Statisitic	0.204308
		Lilliefors 5% Critical Value	0.106662
Log-transformed Statistics	est na regieries na mai est nazioni arrivini na tarini est	Data not lognormal at 5% significance lev	<b>/el</b>
Minimum of log data	1.609438		
Maximum of log data	3.465736	95% UCLs (Assuming Lognormal Distr	
Mean of log data	2.496756	95% H-UCL	13.42102
Standard Deviation of log data	0.283666	95% Chebyshev (MVUE) UCL	14.54758
Variance of log data	0.080467	97.5% Chebyshev (MVUE) UCL	15.37564
	lander laured desirini in edia blesiela dered des	99% Chebyshev (MVUE) UCL	17.00218
Manufaction of the Control of the Co	***************************************	95% Non-parametric UCLs	ACCIDENT A PRODUCT OF CONTRACT AND ACCIDENT AND ACCIDENT ASSESSMENT ASSESSMEN
тара (1 17 радилия ВДИ МАЗ e 1 д e дар у сеобрадувара и тар e д де части базу и техноги изводи изводи изводи и		CLT UCL	13.33757
100 CP V - MARK NOW THE MARK NOW THE ACCOUNT OF A STATE		Adj-CLT UCL (Adjusted for skewness)	13.45069
The second secon		Mod-t UCL (Adjusted for skewness)	13.36516
Control of the contro		Jackknife UCL	13.34751
The second secon		Standard Bootstrap UCL	13.32211
The second section of the second second section of the second section of the second sec		Bootstrap-t UCL	13.48581
RECOMMENDATION	14 Acres 10 1 10 10 10 10 10 10 10 10 10 10 10 1	Hall's Bootstrap UCL	13.73293
Data are Non-parametric (C	.05)	Percentile Bootstrap UCL	13.35652
	······································	BCA Bootstrap UCL	13.38986
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	14.52588
or Modified-t UCL		97.5% Chebyshev (Mean, Sd) UCL	15.35168
Of Modification Color		99% Chebyshev (Mean, Sd) UCL	16.97381
		JO 76 OHEDVSHEV (MOSHI, SU) OOL	10.01001

Data File C:\Documents and Se	ettings\Admin	istrator\De Variable: Metals in Soil Sample	s <= 1 -10 ft
Copper		man tole not to a the same and a summation of the same and a same a	***************************************
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	69	Lilliefors Test Statisitic	0.364905
Number of Unique Samples	30	Lilliefors 5% Critical Value	0.106662
Minimum mg/kg	10	Data not normal at 5% significance level	
Maximum mg/kg	270		
Mean	37.97101	95% UCL (Assuming Normal Distribu	tion)
Median	30	Student's-t UCL	46,45222
Standard Deviation	42.24716	NUMBER OF THE PROPERTY OF THE	
Variance	1784.823	Gamma Distribution Test	
Coefficient of Variation	1.112616	A-D Test Statistic	8.751249
Skewness	4.842632	A-D 5% Critical Value	0.759754
		K-S Test Statistic	0.270626
Gamma Statistics		K-S 5% Critical Value	0.108209
k hat	2.616803	Data do not follow gamma distribution	
k star (bias corrected)	2.512691	at 5% significance level	
Theta hat	14.51046		
Theta star	15.11169	95% UCLs (Assuming Gamma Distributi	on)
nu hat	361,1188	Approximate Gamma UCL	43.22655
nu star	346.7513	Adjusted Gamma UCL	43.34573
Approx.Chi Square Value (.05)	304.5929	The second secon	110.01010
Adjusted Level of Significance	0.046522	Lognormal Distribution Test	
Adjusted Chi Square Value	303.7554	Lilliefors Test Statisitic	0.224451
Adjusted Off Square Value	1 303.7334	Lilliefors 5% Critical Value	0.106662
Log-transformed Statistics			
Minimum of log data	2.302585	Data not lognormal at 5% significance lev	₽[
Maximum of log data	5.598422	OF9/ LIGHts /Annual production	bution\
The feature and the second sec		95% UCLs (Assuming Lognormal Distri	0 1 1 2 2 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1
Mean of log data	3.433748	95% H-UCL	39.66705
Standard Deviation of log data	0.512242	95% Chebyshev (MVUE) UCL	45.26704
Variance of log data	0.262392	97.5% Chebyshev (MVUE) UCL	49.59624
о стема полочения в в питов, аписанния в вини в в вировы може одржден	toka kala talan perioda kalanda ang ada dan dan dan marana a	99% Chebyshev (MVUE) UCL	58.10013
***************************************		95% Non-parametric UCLs	
		CLT UCL	46.33668
		Adj-CLT UCL (Adjusted for skewness)	49.50486
		Mod-t UCL (Adjusted for skewness)	46.94639
S OF THE STATE OF		Jackknife UCL	46.45222
		Standard Bootstrap UCL	46.4827
		Bootstrap-t UCL	61.42446
RECOMMENDATION		Hall's Bootstrap UCL	87.75001
Data are Non-parametric (C	).05)	Percentile Bootstrap UCL	47.10145
		BCA Bootstrap UCL	50.89855
Use 95% Chebyshev (Mean,	Sd) UCL	95% Chebyshev (Mean, Sd) UCL	60.1402
- Indiana de la companya de la compa		97.5% Chebyshev (Mean, Sd) UCL	69.73283
	-	99% Chebyshev (Mean, Sd) UCL	88.57568
THE REPORT OF THE PROPERTY OF		DO /5 OHODYOHOV (MACCI) OUT OUT	00.0.00

Data File C:\Documents and So	ettings\Admini	strator\De Variable: Metals in Soil Sample	s <= 1 -10 fi
Cyanide		Normal Distribution Test	
Raw Statistics	4.4	Hill with a train with the control of the Control o	0.000700
Number of Valid Samples	44	Shapiro-Wilk Test Statisitic	0.328769
Number of Unique Samples	2	Shapiro-Wilk 5% Critical Value	0.944
Minimum mg/kg	0.25	Data not normal at 5% significance level	1
Maximum mg/kg	1.25		
Mean	1.159091	95% UCL (Assuming Normal Distribu	
Median	1.25	Student's-t UCL	1.232789
Standard Deviation	0.290803	aria en la estrita estra esta esta esta esta esta esta esta est	vitti kiraya munumana matumbuh
Variance	0.084567	Gamma Distribution Test	en grant destructions and the second second
Coefficient of Variation	0.250889	A-D Test Statistic	14.88566
Skewness	-2.9475	A-D 5% Critical Value	0.750844
namena dina andinamentikkiya amakilasa aluahik mispininisi aspiga. Apininsis amanin mashimininin		K-S Test Statistic	0.538073
Gamma Statistics		K-S 5% Critical Value	0.133503
k hat	7.224256	Data do not follow gamma distribution	mur mini m illimm nille mini
k star (bias corrected)	6.746844	at 5% significance level	
Theta hat	0.160444		
Theta star	0.171797	95% UCLs (Assuming Gamma Distribution	on)
nu hat	635.7345	Approximate Gamma UCL	1.27869
nu star	593.7223	Adjusted Gamma UCL	1.282946
Approx.Chi Square Value (.05)	538.1898		
Adjusted Level of Significance	0.044545	Lognormal Distribution Test	*
Adjusted Chi Square Value	536.4048	Shapiro-Wilk Test Statisitic	0.328769
and the state of t	444	Shapiro-Wilk 5% Critical Value	0.944
Log-transformed Statistics		Data not lognormal at 5% significance lev	
Minimum of log data	-1.386294		A
Maximum of log data	0.223144	95% UCLs (Assuming Lognormal Distr	ibution)
Mean of log data	0.076831	95% H-UCL	1.377078
Standard Deviation of log data	0.46803	95% Chebyshev (MVUE) UCL	1.58706
Variance of log data	0.219052	97.5% Chebyshev (MVUE) UCL	1.753869
		99% Chebyshev (MVUE) UCL	2.081533
THE PARTY OF THE P		Common and the second s	THE RESIDENCE OF THE PARTY OF T
		95% Non-parametric UCLs	
the second of th		CLT UCL	1,231202
		Adj-CLT UCL (Adjusted for skewness)	1.210386
And a substitution of the	t met given militari en bevan en mer et inn at en une en en	Mod-t UCL (Adjusted for skewness)	1.229543
		Jackknife UCL	1.232789
	1	Standard Bootstrap UCL	N/R
		Bootstrap-t UCL	N/R
RECOMMENDATION		Hall's Bootstrap UCL	N/A
Data are Non-parametric (	7.05)	Percentile Bootstrap UCL	N/R
Para alla Mara Mara Mara Mara Mara Mara M	2.001	BCA Bootstrap UCL	N/R
Use Student's-t UCL			1.350186
and distributed by the contract of the contrac		95% Chebyshev (Mean, Sd) UCL	a minana wantadina maridi
or Modified-t UCL		97.5% Chebyshev (Mean, Sd) UCL	1.432873
mi) of all magnification of the great management of the great management of the contract of th		99% Chebyshev (Mean, Sd) UCL	1.595296

Data File C:\Documents and Se	ttings\Admini	strator\De Variable: Metals in Soil Sample	s <= 1 -10 ft
Lead			
Raw Statistics		Normal Distribution Test	0 450004
Number of Valid Samples	69	Lilliefors Test Statisitic	0.179664
Number of Unique Samples	40	Lilliefors 5% Critical Value	0.106662
Minimum mg/kg	3.9	Data not normal at 5% significance level	<u> </u>
Maximum mg/kg	25		
Mean	10.15652	95% UCL (Assuming Normal Distribu	
Median	8.1	Student's-t UCL	11.08095
Standard Deviation	4.60484	A SAME AND ADDRESS OF THE SAME ADDRESS OF THE SAME AND	
Variance	21.20455	Gamma Distribution Test	T
Coefficient of Variation	0.453388	A-D Test Statistic	1.672868
Skewness	1.336286	A-D 5% Critical Value	0.753473
	ibrer etrillobererelisk spridisk prissiski kar	K-S Test Statistic	0.159516
Gamma Statistics		K-S 5% Critical Value	0.107454
k hat	5.935659	Data do not follow gamma distribution	a anarama anaraman area
k star (bias corrected)	5.687249	at 5% significance level	
Theta hat	1.711103	യ പ്രാക്ഷ കാരം കാരം കാരം അവരെ വാരുന്നു. വാരുന്നു താക്ക് പ്രാക്ഷ കാര്യക്കാര്യ അവരെ അവര് അവരെ അവര് അവര് അവരെ അവര	
Theta star	1.785841	95% UCLs (Assuming Gamma Distributi	
nu hat	819,1209	Approximate Gamma UCL	11.05865
nu star	784.8403	Adjusted Gamma UCL	11.07861
Approx.Chi Square Value (.05)	720.8158	<sup>199</sup> ்க காலங்கானம் கிருந்து இது இது இது இது இது இது இது இது இது இ	, graph and the second and the second
Adjusted Level of Significance	0.046522	Lognormal Distribution Test	
Adjusted Chi Square Value	719.5173	Lilliefors Test Statisitic	0.141503
		Lilliefors 5% Critical Value	0.106662
Log-transformed Statistics	and a first received in the section of a first contract on the section of the sec	Data not lognormal at 5% significance lev	el
Minimum of log data	1.360977		
Maximum of log data	3.218876	95% UCLs (Assuming Lognormal Distr	and an internal and a second
Mean of log data	2.231521	95% H-UCL	11.0579
Standard Deviation of log data	0.406987	95% Chebyshev (MVUE) UCL	12,34023
Variance of log data	0.165638	97.5% Chebyshev (MVUE) UCL	13.30736
, angara armana क्या के प्रमृत्य के क्षेत्र के कालावने सामेशक कालाव क्या का ब्यावा का ब्यावा क्या का क्या का क का का का का का का क्या का	migratinal ministeranian eminister (HTM) eth	99% Chebyshev (MVUE) UCL	15,20708
		95% Non-parametric UCLs	
		CLT UCL	11.06836
		Adj-CLT UCL (Adjusted for skewness)	11.16365
		Mod-t UCL (Adjusted for skewness)	11.09582
		Jackknife UCL	11.08095
		Standard Bootstrap UCL	11.06461
		Bootstrap-t UCL	11.22673
RECOMMENDATION		Hall's Bootstrap UCL	11.19996
Data are Non-parametric (0	0.05)	Percentile Bootstrap UCL	11.08551
a distance and the		BCA Bootstrap UCL	11.12174
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	12.57291
or Modified-t UCL		97.5% Chebyshev (Mean, Sd) UCL	13,61848
		99% Chebyshev (Mean, Sd) UCL	15.67231
an we will be the wine we a surface and the second	and the second s	99% Chebysnev (Wean, Sd) UCL	15.6/23

Data File C:\Documents and Se	ettings\Admini	stratonDe Variable: Metals in Soil Sample	es <= 1 -10 f
Mercury		NI N	in in the same of
Raw Statistics		Normal Distribution Test	0.00000
Number of Valid Samples	69	Lilliefors Test Statisitic	0.369005
Number of Unique Samples	8	Lilliefors 5% Critical Value	0.106662
Minimum mg/kg	0.005	Data not normal at 5% significance level	A DESCRIPTION OF THE PROPERTY
Maximum mg/kg	0.9		
Mean	0.386739	95% UCL (Assuming Normal Distrib	
Median	0.09	Student's-t UCL	0.465667
Standard Deviation	0.39316		
Variance	0.154575	Gamma Distribution Test	1 4 - 4 - 4 - 4
Coefficient of Variation	1.016603	A-D Test Statistic	8.640453
Skewness	0.407714	A-D 5% Critical Value	0.791617
смі міна і жіні і как антана і жі за на імператите за при прежити прежити прежити прежити прежити прежити преж	mary and a minimum or market with the side	K-S Test Statistic	0.327019
Gamma Statistics		K-S 5% Critical Value	0.111423
k hat	0.768873	Data do not follow gamma distribution	
k star (bias corrected)	0.745106	at 5% significance level	and the second and second and analysis and an expectation and the second and the
Theta hat	0.502995	อาการและพระเทเตรมเทเรามอเลยการและพระเทามอเลย จำนวง จายการและพระเทามี จากฟังมิเพียงโดย พ.พ.พ.พ.พ.พ.พ.พ.พ.พ.พ.พ.พ	
Theta star	0.519039	95% UCLs (Assuming Gamma Distribu	
nu hat	106,1045	Approximate Gamma UCL	0.494466
nu star	102.8246	Adjusted Gamma UCL	0.49707
Approx.Chi Square Value (.05)	80.42275	матыр этирге жүмүрмүн ишеритинүрүүгүнүм этим атилганатын кезеттеген текеттеген текеттеген текеттеген текеттеге	
Adjusted Level of Significance	0.046522	Lognormal Distribution Test	and the second s
Adjusted Chi Square Value	80.00138	Lilliefors Test Statisitic	0.286507
		Lilliefors 5% Critical Value	0.106662
Log-transformed Statistics		Data not lognormal at 5% significance le	vel
Minimum of log data	-5.298317		
Maximum of log data	-0.105361	95% UCLs (Assuming Lognormal Dist	ribution)
Mean of log data	-1.725986	95% H-UCL	0.689715
Standard Deviation of log data	1.357422	95% Chebyshev (MVUE) UCL	0.843191
Variance of log data	1.842594	97.5% Chebyshev (MVUE) UCL	1.019255
на жени женика жана жана жана жана жана жана жанаруулуу какаруу - ки ардуул	er The Edde ( India on Edde) and defect the Edd on A Day and Edde by a find	99% Chebyshev (MVUE) UCL	1.3651
		95% Non-parametric UCLs	
		CLT UCL	0.464592
		Adj-CLT UCL (Adjusted for skewness)	0.467074
		Mod-t UCL (Adjusted for skewness)	0.466054
PARTITION AND ADMINISTRATION OF THE PARTITION OF THE PART		Jackknife UCL	0.46566
		Standard Bootstrap UCL	0.464008
		Bootstrap-t UCL	0.46663
RECOMMENDATION	The state of the s	Hall's Bootstrap UCL	0.4647
Data are Non-parametric ((	0.05)	Percentile Bootstrap UCL	0.462609
ожно ожнова подписания в проделения в проделения в подписания в подпис	- Amirica Batz anning promise and the	BCA Bootstrap UCL	0.46724
Use 97.5% Chebyshev (Mear	, Sd) UCL	95% Chebyshev (Mean, Sd) UCL	0.5930
		97.5% Chebyshev (Mean, Sd) UCL	0.68232
istorio de la composició de la composici		99% Chebyshev (Mean, Sd) UCL	0.857676
The second state of the second		Laurente de la composition della composition del	and a second second second second

Data File C:\Documents and Se	ttings\Admin	istrator\De Variable: Metals in Soil Sample	s <= 1 -10 ft
Molybdenum			
Raw Statistics	ortones of believed the state of the state o	Normal Distribution Test	and the state of t
Number of Valid Samples	69	Lilliefors Test Statisitic	0.355687
Number of Unique Samples	7	Lilliefors 5% Critical Value	0.106662
Minimum mg/kg	0.5	Data not normal at 5% significance level	
Maximum mg/kg	2		
Mean	0.914493	95% UCL (Assuming Normal Distribu	tion)
Median	0,75	Student's-t UCL	1.002338
Standard Deviation	0.437582		
Variance	0.191478	Gamma Distribution Test	
Coefficient of Variation	0.478497	A-D Test Statistic	9.432707
Skewness	1.958407	A-D 5% Critical Value	0.753138
	ren reviews or an interest serials in trinslature in tertain	K-S Test Statistic	0.317273
Gamma Statistics	,	K-S 5% Critical Value	0.107422
k hat	6.432209	Data do not follow gamma distribution	i-i skiebist lai lastet avaizersava an arszava an realin.
k star (bias corrected)	6.16221	at 5% significance level	
Theta hat	0.142174	annya amina da manguna na manka kabasa amina sa kasa ama sa mana amina kan dasa amina da dabah hida Hitasap programaya a ma	
Theta star	0.148403	95% UCLs (Assuming Gamma Distributi	
nu hat	887.6448	Approximate Gamma UCL	0.992316
nu star	850.3849	Adjusted Gamma UCL	0.994035
Approx.Chi Square Value (.05)	783.6925	уманданыя разучнували между на в является прянятиль развирання на почина на бай на почина на бай да Андей ф. Рамен и почина на почина на почина на бай да Андей ф. Рамен и почина на почин	
Adjusted Level of Significance	0.046522	Lognormal Distribution Test	
Adjusted Chi Square Value	782.3376	Lilliefors Test Statisitic	0.292231
	Ţ	Lilliefors 5% Critical Value	0.106662
Log-transformed Statistics		Data not lognormal at 5% significance lev	el
Minimum of log data	-0.693147		
Maximum of log data	0.693147	95% UCLs (Assuming Lognormal Distri	
Mean of log data	-0.169129	95% H-UCL	0.979592
Standard Deviation of log data	0.370331	95% Chebyshev (MVUE) UCL	1.084141
Variance of log data	0.137145	97.5% Chebyshev (MVUE) UCL	1.162358
. manna meest tamperel kestadun meddulkaanda kalli Markel et apete et Markelen kepakapi japas ir aperen een een		99% Chebyshev (MVUE) UCL	1.315999
		95% Non-parametric UCLs	and the state of t
THE PARTY OF THE P	1	CLT UCL	1.001141
1 min walin (100 m 100 m		Adj-CLT UCL (Adjusted for skewness)	1.014412
	of localitation of the free factor of the feet consistence and the feet	Mod-t UCL (Adjusted for skewness)	1.004408
		Jackknife UCL	1.002338
		Standard Bootstrap UCL	0.999651
		Bootstrap-t UCL	1.025959
RECOMMENDATION		Hall's Bootstrap UCL	1.016752
Data are Non-parametric (0	.05)	Percentile Bootstrap UCL	1.005072
A de la constanta de la consta		BCA Bootstrap UCL	1.012319
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	1.144114
or Modified-t UCL	***************************************	97.5% Chebyshev (Mean, Sd) UCL	1.243471
	an Cara general en deficiencia den edectore derre encombre en egyptig	99% Chebyshev (Mean, Sd) UCL	1.438639
ere an anned discovered and resident federale til Ped al aver av deslava 1980 på terstella til endelt et dise Marie turi bet	A constant and a cons	II alibera lektoolikuunnissa muunuutuu muunuu muunuu muunuu muunuu muunuu muunuu kassa kassa kassa kassa kassa	The second of th

Data File C:\Documents and Se	ttings\Admir	nistratorVariable: Met	als in Soil Samples <= 1 -10 ft
Nickel	and removal remainschaft in to will interfe	PH-H-M-Processor or commencement of the commen	
Raw Statistics		Normal Distrib	ution Test
Number of Valid Samples	69	Lilliefors Test Statisitic	0.483639
Number of Unique Samples	24	Lilliefors 5% Critical Val	ue 0.106662
Minimum mg/kg	7	Data not normal at 5% s	significance level
Maximum mg/kg	460		
Mean	34.26087	95% UCL (Assumir	ng Normal Distribution)
Median	24	Student's-t UCL	46.83553
Standard Deviation	62.63777		
Variance	3923.49	Gamma Di	stribution Test
Coefficient of Variation	1.82826	A-D Test Statistic	13.00527
Skewness	5.704713	A-D 5% Critical Value	0.768671
		K-S Test Statistic	0.411454
Gamma Statistics		K-S 5% Critical Value	0.109244
k hat	1.519046	Data do not follow gami	ma distribution
k star (bias corrected)	1.462663	at 5% significance level	rta arangan marangan dan arangan marangan manan arangan manangan menangan menangan terbelah dalah 1911-1914 men
Theta hat	22.5542		
Theta star	23.42363	95% UCLs (Assuming	Gamma Distribution)
nu hat	209.6284	Approximate Gamma U	
nu star	201.8475	Adjusted Gamma UCL	40.8361
Approx.Chi Square Value (.05)	169.9678		
Adjusted Level of Significance 0.046522		Lognormal Distribution Test	
Adjusted Chi Square Value	169.347	Lilliefors Test Statisitic	0.316363
The state of the s		Lilliefors 5% Critical Val	
Log-transformed Statistics	T	Data not lognormal at 5	
Minimum of log data	1.94591		The second secon
Maximum of log data	6.131226	95% UCLs (Assumin	g Lognormal Distribution)
Mean of log data	3.170067	95% H-UCL	33.23402
Standard Deviation of log data	0.615577	95% Chebyshev (MVUI	
Variance of log data	0.378935	97.5% Chebyshev (MV	
		99% Chebyshev (MVU	
		14 to 14	en fan de skriver en en de skriver de skriver en de sk De skriver en de skriver e
The state of the s	T	95% Non-paran	netric UCLs
одот тур (1 m) и 1 г. пости и поприяти порт на поприяти попри поприяти поприводи поприяти поприви попри поприви поприви попри поприви попри поприви поприви		CLT UCL	46.66422
Part of the Control o		Adj-CLT UCL (Adjusted	
		Mod-t UCL (Adjusted for	
\$\text{\texicl{\text{\texit}\\ \text{\text{\text{\text{\text{\text{\text{\text{\text{\texit{\texicl{\text{\text{\text{\texit{\text{\text{\text{\texicl{\text{\texicl{\ticl{\tinit}\\ \tint{\texititt{\texict{\texititt{\texititt{\texitin}\texit{\texititt{\texitil\tint{\texitittit{\texitile\tint{\tinittit{\texitint{\tiint{\texitittit{\texitil\tinit{\tic	······································	Jackknife UCL	46.83553
The state of the s		Standard Bootstrap UC	
Total to to this book for this above and the other lands of the other		Bootstrap-t UCL	70.10203
RECOMMENDATION	4-A	Hall's Bootstrap UCL	58.56777
Data are Non-parametric (0	.05)	Percentile Bootstrap U(	
	anti resea made est terre mai ne control terre accorden	BCA Bootstrap UCL	55.18841
Use 95% Chebyshev (Mean, S	SA) LICI	95% Chebyshev (Mean	**************************************
·   ·   ·		97.5% Chebyshev (Mea	An important according to the contract of the
		99% Chebyshev (Mean	
• I	1	: 33/0 01165731167 11716011	

Data File C:\Documents and Se	ttinge\Admir	nistratorVariable:  Metals in Soil Sample	s _= 1 -10 ft
Selenium	tilligs valitili	ilistrator (De; Variable: Wetals in Con Cample	1 - 1019
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	69	Lilliefors Test Statisitic	0.349708
Number of Unique Samples	10	Lilliefors 5% Critical Value	0.106662
	-{	<del>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</del>	0.100002
11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	0.7	Data not normal at 5% significance level	
Maximum mg/kg	4.3	050/ 1101 / / 4   Distribution	#! \
Mean	1.484058	95% UCL (Assuming Normal Distribu	
Median	0.75	Student's-t UCL	1.68351
Standard Deviation	0.993527	acialaseinusian miesusteita ahtiimaisittävittiin kielaksiseittiinin japajajajajajajajajajajajajajajajajajaj	deduce economics is need as a 1 to 6 staff (4 to 6 state to 1 to 1 to
Variance	0.987095	Gamma Distribution Test	
Coefficient of Variation	0.669466	A-D Test Statistic	9.930754
Skewness	0.90959	A-D 5% Critical Value	0.759776
accounts and material representation and a material and an internal law form local definition and the first feel feel feel feel feel feel feel fee	i let iel teor le hi iel Morti en wommen di esse su cultet	K-S Test Statistic	0.360083
Gamma Statistics		K-S 5% Critical Value	0.108212
k hat	2.612971	Data do not follow gamma distribution	
k star (bias corrected)	2.509025	at 5% significance level	na lad val hal voladovskool loidd boddalinda Addinina Add
Theta hat	0.567958	пинания на материнем поделения поделения поделения поделения поделения поделения на поделения по	tel blor leise de les ses un les y son mes son sons
Theta star	0.591488	95% UCLs (Assuming Gamma Distributi	on)
nu hat	360.59	Approximate Gamma UCL	1.689631
nu star	346.2455	Adjusted Gamma UCL	1.694293
Approx.Chi Square Value (.05)	304.1186		-i i-i i-i i-i ividi kaliradelesteriki adversa misasersi ser m
Adjusted Level of Significance	0.046522	Lognormal Distribution Test	
Adjusted Chi Square Value	303.2818	Lilliefors Test Statisitic	0.358406
		Lilliefors 5% Critical Value	0.106662
Log-transformed Statistics		Data not lognormal at 5% significance lev	el
Minimum of log data	-0.356675		
Maximum of log data	1.458615	95% UCLs (Assuming Lognormal Distr	ibution)
Mean of log data	0.19139	95% H-UCL	1.703189
Standard Deviation of log data	0.623957	95% Chebyshev (MVUE) UCL	1.985082
Variance of log data	0.389323	97.5% Chebyshev (MVUE) UCL	2.209581
		99% Chebyshev (MVUE) UCL	2.650567
		95% Non-parametric UCLs	
		CLT UCL	1.680793
		Adj-CLT UCL (Adjusted for skewness)	1.694788
	alles de l'activité de la latin de la lieur de la	Mod-t UCL (Adjusted for skewness)	1.685693
		Jackknife UCL	1.68351
		Standard Bootstrap UCL	1.683046
		Bootstrap-t UCL	1.692588
RECOMMENDATION	aligan van amari amari amari amari amari amari	Hall's Bootstrap UCL	1.693568
Data are Non-parametric (0	.05)	Percentile Bootstrap UCL	1.673913
		BCA Bootstrap UCL	1.7
Use 95% Chebyshev (Mean, S	3d) UCL	95% Chebyshev (Mean, Sd) UCL	2.005411
	- Andrews and a second	97.5% Chebyshev (Mean, Sd) UCL	2.231001
To you que tany sen t		99% Chebyshev (Mean, Sd) UCL	2.674128
and the second contract contract of second contract of second contract of the second contra			
L	ŧ	<u> </u>	

Data File C:\Documents and Se	ettings\Admiņi:	strator\De Variable: Metals in Soil Sample	s <= 1 -10 ft
Silver			
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	69	Lilliefors Test Statisitic	0.348097
Number of Unique Samples	7	Lilliefors 5% Critical Value	0.106662
Minimum mg/kg	0.4	Data not normal at 5% significance level	
Maximum mg/kg	3.7		
Mean	0.673188	95% UCL (Assuming Normal Distribu	
Median	0.5	Student's-t UCL	0.761898
Standard Deviation	0.441887	INGONING SOUTH A MINING SOUTH ACCOUNTS AND A SOUTH A SOUTH AND A SOUTH A SOUTH A SOUTH A SOUTH A SOUTH A SOUTH A S	
Variance	0.195264	Gamma Distribution Test	
Coefficient of Variation	0.656409	A-D Test Statistic	8.126819
Skewness	4.914787	A-D 5% Critical Value	0.754345
THE STATE OF THE S		K-S Test Statistic	0.375124
Gamma Statistics		K-S 5% Critical Value	0.107545
k hat	4.820525	Data do not follow gamma distribution	
k star (bias corrected)	4.620599	at 5% significance level	
Theta hat	0.13965		
Theta star	0.145693	95% UCLs (Assuming Gamma Distribut	tion)
nu hat	665.2324	Approximate Gamma UCL	0.740029
nu star	637.6426	Adjusted Gamma UCL	0.741515
Approx.Chi Square Value (.05)	580.0499		- American de la company
Adjusted Level of Significance	0.046522	Lognormal Distribution Test	enema elip eranavamen amenan
Adjusted Chi Square Value	578.8869	Lilliefors Test Statisitic	0.372675
Adjustica of the order of the o	0.0000	Lilliefors 5% Critical Value	0.106662
Log-transformed Statistics		Data not lognormal at 5% significance lev	- inades - income and a second and a
Minimum of log data	-0.916291		**************************************
Maximum of log data	1.308333	95% UCLs (Assuming Lognormal Dist	ribution)
Mean of log data	-0.503024	95% H-UCL	0.721161
Standard Deviation of log data	0.413859	95% Chebyshev (MVUE) UCL	0.806022
Variance of log data	0.413639		0.870121
variance or log data	0.1712/9	97.5% Chebyshev (MVUE) UCL	0.996032
	er dia deministrationes en la company	99% Chebyshev (MVUE) UCL	1 0.990032
		95% Non-parametric UCLs	
		CLT UCL	0.76069
		Adj-CLT UCL (Adjusted for skewness)	0.794321
		Mod-t UCL (Adjusted for skewness)	0.767144
		Jackknife UCL	0.761898
And the second of the second s		Standard Bootstrap UCL	0.760005
Particular description of the Control of the Contro		Bootstrap-t UCL	0.81968
RECOMMENDATION	turbo con micro se su con	Hall's Bootstrap UCL	1.153575
Data are Non-parametric (0	0.05)	Percentile Bootstrap UCL	0.769348
Security Sec		BCA Bootstrap UCL	0.797174
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	0.905068
or Modified-t UCL		97.5% Chebyshev (Mean, Sd) UCL	1.005403
O MOUITOUT OOL		99% Chebyshev (Mean, Sd) UCL	1.202491
		88 /6 Offenys fev (Weart, 30) OOL	1.202481

Thallium			s <= 1 -10 f
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	69	Lilliefors Test Statisitic	0.504758
Number of Unique Samples	12	Lilliefors 5% Critical Value	0.106662
Minimum mg/kg	0.445	Data not normal at 5% significance level	
Maximum mg/kg	27	A ZUIGA PAUDA MET AUTOMATA ANTA PER SECTION AUTOMATICA METAL ANTA AUTOMATICA PER PER PER PER PER PER PER PER P	
Mean	2.310145	95% UCL (Assuming Normal Distribu	tion)
Median	0.5	Student's-t UCL	3.44407
Standard Deviation	5.64839		
Variance	31.90431	Gamma Distribution Test	2 2 111 2 2 11 2 11 2 11
Coefficient of Variation	2.445037	A-D Test Statistic	17.1027
Skewness	3.351166	A-D 5% Critical Value	0.807044
		K-S Test Statistic	0.459404
Gamma Statistics		K-S 5% Critical Value	0.11268
k hat	0.599681	Data do not follow gamma distribution	
k star (blas corrected)	0.583269	at 5% significance level	
Theta hat	3.852293	apparaturus and and a second an	· ····································
Theta star	3.960683	95% UCLs (Assuming Gamma Distributi	on)
nu hat	82.75591	Approximate Gamma UCL	3.05757
nu star	80.49116	Adjusted Gamma UCL	3.0759
Approx.Chi Square Value (.05)	60.81495	and the same of th	
Adjusted Level of Significance 0.046522		Lognormal Distribution Test	
Adjusted Chi Square Value 60.45		Lilliefors Test Statisitic	0.33823
சாரியாதிய இடையும் மார்கள் பரக்கள் விரங்கள் இடிய நார்கள் கொடிய மாகிய மாகிய மாகிய மாகிய காரிய காகிய காகிய காகிய இது இது இது இது இது இது இது இது இது இது	American and the second	Lilliefors 5% Critical Value	0.10666
Log-transformed Statistics	T	Data not lognormal at 5% significance lev	
Minimum of log data	-0.809681	одина и при при при при при при при при при п	macauremus ad displaying squigue
Maximum of log data	3.295837	95% UCLs (Assuming Lognormal Distr	ibution)
Mean of log data	-0.193113	95% H-UCL	1.84757
Standard Deviation of log data	1.023767	95% Chebyshev (MVUE) UCL	2,26125
Variance of log data	1.048098	97.5% Chebyshev (MVUE) UCL	2.6440
CONTRACTOR OF THE STATE OF THE		99% Chebyshev (MVUE) UCL	3.39598
A CALLADA DA DAN DAN DAN DAN DAN DAN DAN DAN D		95% Non-parametric UCLs	
		CLT UCL	3.42862
rea retainment out on eine er authoris eine et out de volgen volgen in de volgen in		Adj-CLT UCL (Adjusted for skewness)	3.72174
Compute signification and state and an extension of the state of the s		Mod-t UCL (Adjusted for skewness)	3.48979
		Jackknife UCL	3.44407
THE RESIDENCE AND THE ACTION AS A SECOND SEC		Standard Bootstrap UCL	3.41686
	***************************************	Bootstrap-t UCL.	4.05481
RECOMMENDATION		Hall's Bootstrap UCL	3.42432
Data are Non-parametric (0	0.05)	Percentile Bootstrap UCL	3.45710
A CONTRACTOR OF THE PARTY OF TH		BCA Bootstrap UCL	3.68847
Use 97.5% Chebyshev (Mean	Sd) LICI	95% Chebyshev (Mean, Sd) UCL	5.27413
Ogo of to to Olien Apriles (Megi-	7001001	97.5% Chebyshev (Mean, Sd) UCL	6.55665
		99% Chebyshev (Mean, Sd) UCL	9.07592
proprieta de la compresenta de la compresenta de compresenta de la compresenta del compresenta del compresenta de la compresenta de la compresenta de la compresenta de la compresenta del compresenta del compresenta de la compresenta de la compresenta de la compresenta del c		20 10 Ollen Agua American Paris and ACT	1 0.01 002

Data File C:\Documents and Se	ttings\Admin	istrator\De:Variable: Metals in Soil Sample	s <= 1 -10 ft
Vanadium			
Raw Statistics	refer credit area lare cobbiner count a lat males creas af eas	Normal Distribution Test	- Sie Stein Litter Lieben von der seine sein stein sein sein sein sein sein sein sein s
Number of Valid Samples	69	Lilliefors Test Statisitic	0.120851
Number of Unique Samples	35	Lilliefors 5% Critical Value	0.106662
Minimum mg/kg	9	Data not normal at 5% significance level	
Maximum mg/kg	84	н на манитер и шарулин одиулдан од од друг (1964) (1964) рода и од	pare 51, de la presenta del presenta del presenta de la presenta del presenta del presenta del presenta del presenta de la presenta de la presenta de la presenta del presen
Mean	47	95% UCL (Assuming Normal Distribu	ıtion)
Median	48	Student's-t UCL	49.88668
Standard Deviation	14.37932		
Variance	206.7647	Gamma Distribution Test	
Coefficient of Variation	0.305943	A-D Test Statistic	3.433686
Skewness	-0.696327	A-D 5% Critical Value	0.752479
		K-S Test Statistic	0.188034
Gamma Statistics		K-S 5% Critical Value	0.107359
k hat	7.409553	Data do not follow gamma distribution	
k star (bias corrected)	7.09706	at 5% significance level	
Theta hat	6.343163		
Theta star	6.62246	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	1022.518	Approximate Gamma UCL	50.71029
nu star	979.3943	Adjusted Gamma UCL	50.79196
Approx.Chi Square Value (.05)	907.7356		
Adjusted Level of Significance	0.046522	Lognormal Distribution Test	
Adjusted Chi Square Value	906.276	Lilliefors Test Statisitic	0.219302
		Lilliefors 5% Critical Value	0.106662
Log-transformed Statistics	en else anderettest et et alter ettestion reconservant als a	Data not lognormal at 5% significance lev	/el
Minimum of log data	2.197225		
Maximum of log data	4.430817	95% UCLs (Assuming Lognormal Distr	
Mean of log data	3.781152	95% H-UCL	52.67204
Standard Deviation of log data	0.424074	95% Chebyshev (MVUE) UCL	59.00296
Variance of log data	0.179839	97.5% Chebyshev (MVUE) UCL	63.79601
	98-rs, 180-861 N PSH BIANG 1-004-1-1-04-1-1-1-1-1	99% Chebyshev (MVUE) UCL	73.21103
		95% Non-parametric UCLs	E-164-1601-16-16-16-16-16-16-16-16-16-16-16-16-16
man at from an annual annual annual annual annual an annual (1861 fund m) buran an annual from an annual an an	-	CLT UCL	49.84735
	-	Adj-CLT UCL (Adjusted for skewness)	49.6923
and the state of the self-short of shorts and of the short and the same and the sam		Mod-t UCL (Adjusted for skewness)	49.86249
		Jackknife UCL	49.88668
sasteres transcommunication and remainded and resident transfer and the filtering critical transfer from state the filtering		Standard Bootstrap UCL	49.8581
		Bootstrap-t UCL	49.71253
RECOMMENDATION		Hall's Bootstrap UCL	49.78321
Data are Non-parametric (0	0.05)	Percentile Bootstrap UCL	49,7971
		BCA Bootstrap UCL	49.68116
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	54.54554
or Modified-t UCL		97.5% Chebyshev (Mean, Sd) UCL	57.8105
		99% Chebyshev (Mean, Sd) UCL	64.22389
		The second secon	SOLD TO SOLD THE SOLD
Lancard Lancard Lancard	<u> </u>		

Zinc Raw Statistics		Normal Dictribution Test	
		Normal Distribution Test	0.120747
Number of Valid Samples	69	Lillefors Test Statistic	- Mily Whater William Wm am
Number of Unique Samples	51	Lilliefors 5% Critical Value	0.106662
Minimum mg/kg	6	Data not normal at 5% significance level	<u> </u>
Maximum img/kg	130	DECK (IOL /Assessing News at Distable	4:
Mean	55.24638	95% UCL (Assuming Normal Distribut	
Median	62	Student's-t UCL	60.01315
Standard Deviation	23.7446		Arle dissues a recommendation at
Variance	563.8061	Gamma Distribution Test	T
Coefficient of Variation	0.429795	A-D Test Statistic	2.935314
Skewness	-0.047183	A-D 5% Critical Value	0.755877
ник опилься этих оснивальных институторующих министрации.	mundenindrabelabelabelabelabelabelabelabelabelabel	K-S Test Statistic	0.17364
Gamma Statistics		K-S 5% Critical Value	0.10774
k hat	3.790663	Data do not follow gamma distribution	
k star (bias corrected)	3.635513	at 5% significance level	
Theta hat	14.57433	The state of the	anamina a ameramanisan
Theta star	15.19631	95% UCLs (Assuming Gamma Distributi	
nu hat	523.1114	Approximate Gamma UCL	61.4913
nu star	501.7008	Adjusted Gamma UCL	61.6312
Approx.Chi Square Value (.05)	450.7486	ARIAN TIRE STORE S	
Adjusted Level of Significance	0.046522	Lognormal Distribution Test	angeneranian meneral meneral meneral del
Adjusted Chi Square Value	449.7257	Lilliefors Test Statisitic	0.195358
		Lilliefors 5% Critical Value	0.106662
Log-transformed Statistics		Data not lognormal at 5% significance leve	el
Minimum of log data	1.791759		
Maximum of log data	4.867534	95% UCLs (Assuming Lognormal Distri	bution)
Mean of log data	3.874139	95% H-UCL	66.75934
Standard Deviation of log data	0.60828	95% Chebyshev (MVUE) UCL	77.5917
Variance of log data	0.370005	97.5% Chebyshev (MVUE) UCL	86.18057
		99% Chebyshev (MVUE) UCL	103.0518
		95% Non-parametric UCLs	
		CLT UCL	59.9482
		Adj-CLT UCL (Adjusted for skewness)	59.9308
The state of the s		Mod-t UCL (Adjusted for skewness)	60.0104
The second secon		Jackknife UCL	60.0131
		Standard Bootstrap UCL	59.8470
		Bootstrap-t UCL	59.9062
RECOMMENDATION	Julius 21120112221222222222222222222222222222	Hall's Bootstrap UCL	60.1400
Data are Non-parametric (0	0.05)	Percentile Bootstrap UCL	59.9420
		BCA Bootstrap UCL	59.8115
Use 95% Chebyshev (Mean,	Sd) UCL	95% Chebyshev (Mean, Sd) UCL	67.7063
	7-4-7-7-	97.5% Chebyshev (Mean, Sd) UCL	73,0977
		99% Chebyshev (Mean, Sd) UCL	83.6882

Raw Statistics		Normal Distribution Test	
Number of Valid Samples	40	Shapiro-Wilk Test Statisitic	0.288421
Number of Unique Samples	6	Shapiro-Wilk 5% Critical Value	0.94
Minimum ug/L	0.5	Data not normal at 5% significance level	
Maximum ug/L	5	A TALLED AND THE RESIDENCE OF THE PROPERTY OF	de aleurikuralidi zaud Nib
Mean	0.70625	95% UCL (Assuming Normal Distribut	tion)
Median	0.5	Student's-t UCL	0.924772
Standard Deviation	0.820271	TOTAL THE TAXABLE TO THE TAXABLE TO THE TAXABLE THE TAXABLE THAT AND THA	duse remared non-rem remove re
Variance	0.672845	Gamma Distribution Test	him white Vimberalina in prince in
Coefficient of Variation	1.161446	A-D Test Statistic	12.15142
Skewness	4.615906	A-D 5% Critical Value	0.756302
	na franco y a recionada e recionada e a como de esta d	K-S Test Statistic	0.499388
Gamma Statistics		K-S 5% Critical Value	0.140733
k hat	2.627841	Data do not follow gamma distribution	
k star (bias corrected)	2.447419	at 5% significance level	والمستهدات المستهدمة المادية المادية الماداية فضاها
Theta hat	0.268757	a para mangangan ang mangangan na mangangan mangangan mangangan mangangan mangan mangan mangan mangan mangan m Tangan mangangan mangangan mangangan mangangan mangangan mangan mangan mangan mangan mangan mangan mangan manga	
Theta star	0.288569	95% UCLs (Assuming Gamma Distributi	on)
nu hat	210.2272	Approximate Gamma UCL	0.84104
nu star	195.7935	Adjusted Gamma UCL	0.84657
Approx.Chi Square Value (.05)	164.414	7101000 Carrier South Control of the	
Adjusted Level of Significance 0.044		Lognormal Distribution Test	
Adjusted Chi Square Value	163.3389	Shapiro-Wilk Test Statisitic	0.352146
The state of the s		Shapiro-Wilk 5% Critical Value	0.94
Log-transformed Statistics	7	Data not lognormal at 5% significance leve	
Minimum of log data	-0.693147	Data not region tal and argumente levi	
Maximum of log data	1.609438	95% UCLs (Assuming Lognormal Distri	hution)
Mean of log data	-0.54996	95% H-UCL	0.74544
Standard Deviation of log data	0.474839	95% Chebyshev (MVUE) UCL	0.86366
Variance of log data	0.225472	97.5% Chebyshev (MVUE) UCL	0.95879
Valiable of log data	0.220172	99% Chebyshev (MVUE) UCL	1.14565
international and the state an			
		95% Non-parametric UCLs	0.04050
		CLT UCL	0.91958
سيناه والمنافظة المنافظة المنا		Adj-CLT UCL (Adjusted for skewness)	1.02072
		Mod-t UCL (Adjusted for skewness)	0.94054
er at de semene se an sesse semene en antien south ren terrande le ministre le la retrain de le la retrain de l	er maker andre altibution of research	Jackknife UCL	0.92477
		Standard Bootstrap UCL	0.91559
		Bootstrap-t UCL	2.38240
RECOMMENDATION		Hall's Bootstrap UCL	2.56746
Data are Non-parametric (0.05)		Percentile Bootstrap UCL	0.94
		BCA Bootstrap UCL	1.0337
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	1.27158
or Modified-t UCL		97.5% Chebyshev (Mean, Sd) UCL	1.51620
		99% Chebyshev (Mean, Sd) UCL	1.99671

Raw Statistics		Normal Distribution Test	
Number of Valid Samples	38	Shapiro-Wilk Test Statisitic	0.165559
Number of Unique Samples	2	Shapiro-Wilk 5% Critical Value	0.938
Minimum ug/L	5	Data not normal at 5% significance level	0.000
Maximum ug/L	49	Data not normal at 3/8 significative level	
Mean		95% UCL (Assuming Normal Distribu	rtion
Median	6.157895		8.111371
	7 107740	Student's-t UCL	0.11137
Standard Deviation	7.137743	Camera Distribution Tool	DAMES BOOK BOOK BOOK BOOK BOOK BOOK BOOK BOO
Variance	50.94737	Gamma Distribution Test	4 4 4 4 7 7 7
Coefficient of Variation	1.159121	A-D Test Statistic	14.44727
Skewness	6.164414	A-D 5% Critical Value	0.753368
		K-S Test Statistic	0.551773
Gamma Statistics		K-S 5% Critical Value	0.143959
k hat	3.531016	Data do not follow gamma distribution	
k star (bias corrected)	3.269795	at 5% significance level	
Theta hat	1.743944	AND THE RESIDENCE OF THE PARTY	AALIMA IIII MIRANININININININININININININININININININ
Theta star	1.883266	95% UCLs (Assuming Gamma Distribut	
nu hat	268.3572	Approximate Gamma UCL	7.184369
nu star	248.5044	Adjusted Gamma UCL	7.230474
Approx.Chi Square Value (.05)	212.9991		
Adjusted Level of Significance 0.0434		Lognormal Distribution Test	
Adjusted Chi Square Value	211.6409	Shapiro-Wilk Test Statishtic	0.165559
и жения в не се от при пределения в не не в не не в не не не не не не не не не н Не не в не	make a submitted and a submitted as	Shapiro-Wilk 5% Critical Value	0.938
Log-transformed Statistics		Data not lognormal at 5% significance lev	
Minimum of log data	1.609438	๛ ๛๚๛๛๚๛ ๒๐๐๛ ๚๚๛๛๚๛๚๛ฅ๚๛๚๚๛๛๛๛๛๚๛๛๚๛๛๚๛๛๚๛๛๚๛๛๚๛๛๚๛๛๚	Meile togliebellebel der mellete bemeile meile
Maximum of log data	3.89182	95% UCLs (Assuming Lognormal Dist	ribution)
Mean of log data	1.669501	95% H-UCL	6.353206
Standard Deviation of log data	0.370251	95% Chebyshev (MVUE) UCL	7.20062
Variance of log data	0.137086	97.5% Chebyshev (MVUE) UCL	7.86062
VALUE OF TOS GALLA	0.107000	99% Chebyshev (MVUE) UCL	9.157063
mana Andrickie be Ank 490 Alles bedei Alles Andri Alles Andrickie and andrickie bedei bedei andrickie bedei An		33 /0 Oliephanies (IMA OF) POF	3.137000
		95% Non-parametric UCLs	
		CLT UCL	8.062462
		Adj-CLT UCL (Adjusted for skewness)	9.299689
		Mod-t UCL (Adjusted for skewness)	8.304354
		Jackknife UCL	8.111371
and the second s		Standard Bootstrap UCL	N/R
		Bootstrap-t UCL	N/R
RECOMMENDATION		Hail's Bootstrap UCL	N/A
Data are Non-parametric (0	0.05)	Percentile Bootstrap UCL	N/R
and the same and t		BCA Bootstrap UCL	N/R
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	11.20504
or Modified-t UCL	er a anna se jumin, parin, nor a surpers, nom	97.5% Chebyshev (Mean, Sd) UCL	13.38895
Of Modified COL	1		17.6788
OF ALBERT AND THE	in and a summary of the summer	99% Chebyshev (Mean, Sd) UCL	17.0700

Raw Statistics		Normal Distribution Test	
Number of Valid Samples	40	Shapiro-Wilk Test Statisitic	0.194947
Number of Unique Samples	11	Shapiro-Wilk 5% Critical Value	0,94
Minimum ug/L	0.5	Data not normal at 5% significance level	
Maximum lug/L	210	THE RESERVE AS A SECOND OF THE PROPERTY OF THE	*************
Mean	6.6675	95% UCL (Assuming Normal Distribu	tion)
Median	0.5	Student's-t UCL	15.47511
Standard Deviation	33.06132		1 10.77011
Variance	1093,051	Gamma Distribution Test	**************************************
Coefficient of Variation	4.958578	A-D Test Statistic	10.29187
Skewness	6.273315	A-D 5% Critical Value	0.849023
	1 0.2700 (0)	K-S Test Statistic	0.42921
Gamma Statistics		K-S 5% Critical Value	0.150686
k hat	0.338854	Data do not follow gamma distribution	, 0.100000
k star (bias corrected)	0.330106	at 5% significance level	
Theta hat	19.67664		De Loncole Delgado Mendellodo des mormo messona
Theta star	20.19804	95% UCLs (Assuming Gamma Distributi	~n\
nu hat	27.10829	Approximate Gamma UCL	11.2206
nu star	26.4085	Adjusted Gamma UCL	11.44707
Approx.Chi Square Value (.05)	15.69244	Adjusted dariina oct	11.44/0/
Adjusted Level of Significance	0.044	Lognormal Distribution Test	
Adjusted Chi Square Value			0 556706
Adjusted Cili Square value	15.38198	Shapiro-Wilk Fey Critical Volve	0.556786
Log tropoformed Chatistics	~~~~ <del>~</del>	Shapiro-Wilk 5% Critical Value	0.94
Log-transformed Statistics	0.600147	Data not lognormal at 5% significance lev	91
Minimum of log data Maximum of log data	-0.693147	OFP/ LICL a /Assuming Lagrange Distri	h.,1(a.a.)
Mean of log data	5.347108	95% UCLs (Assuming Lognormal Distri	
Standard Deviation of log data	-0.097698	95% H-UCL	3.45382
Variance of log data	1.261501	95% Chebyshev (MVUE) UCL	4.03276
variance or log data	1.591384	97.5% Chebyshev (MVUE) UCL	4.937124
A — A		99% Chebyshev (MVUE) UCL	6.713573
		95% Non-parametric UCLs	
**************************************		CLT UCL	15.2659
		Adj-CLT UCL (Adjusted for skewness)	20.80625
		Mod-t UCL (Adjusted for skewness)	16.33929
mas anni ai sumuni ai samini ai sa sinin sa sa sinin sa sumuni sa sa sinin sa sa sinin sa sa sinin sa sa sinin		Jackknife UCL	15,47511
	,	Standard Bootstrap UCL	14.92586
CONTRACTOR OF SECURITIES CONTRACTOR INTO THE PROPERTY AND ADDRESS OF THE PROPERTY OF THE PROPE		Bootstrap-t UCL	136.7
RECOMMENDATION		Hall's Bootstrap UCL	76.64402
Data are Non-parametric (0	.05)	Percentile Bootstrap UCL	17.095
		BCA Bootstrap UCL	22.795
Use 99% Chebyshev (Mean, s	Sd) UCL	95% Chebyshev (Mean, Sd) UCL	29.45344
		97.5% Chebyshev (Mean, Sd) UCL	39.31294
		99% Chebyshev (Mean, Sd) UCL	58.68001

Raw Statistics		Normal Distribution Test	
Number of Valid Samples	40	Shapiro-Wilk Test Statisitic	0.36629
Number of Unique Samples	7	Shapiro-Wilk 5% Critical Value	0.94
Minimum ug/L	0.5	Data not normal at 5% significance level	
Maximum lug/L	5	unius sun seriente en me en me en manuramente sun en metro de l'Artice en rec'hiet en rec'hiet en rec'hiet er d L	·Vine (d) · Ser mi de l'arright (d) · se de l'arright (d)
Mean	0.74125	95% UCL (Assuming Normal Distribut	tion)
Viedian	0.5	Student's-t UCL	0.94911
Standard Deviation	0.780277		
Variance	0.608832	Gamma Distribution Test	
Coefficient of Variation	1.05265	A-D Test Statistic	10.100
Skewness	4.590068	A-D 5% Critical Value	0.75599
		K-S Test Statistic	0.47931
Gamma Statistics		K-S 5% Critical Value	0.140678
k hat	2,6999	Data do not follow gamma distribution	
k star (bias corrected)	2.514074	at 5% significance level	
Theta hat	0.274547		
Theta star	0.29484	95% UCLs (Assuming Gamma Distribution	on)
nu hat	215.992	Approximate Gamma UCL	0.88056
nu star	201.1259	Adjusted Gamma UCL	0.88627
Approx.Chi Square Value (.05)	169,3055		
Adjusted Level of Significance 0.044		Lognormal Distribution Test	
Adjusted Chi Square Value	168.214	Shapiro-Wilk Test Statisitic	0.4689
		Shapiro-Wilk 5% Critical Value	0.9
Log-transformed Statistics		Data not lognormal at 5% significance leve	el
Minimum of log data	-0.693147	anica nie wiejie ou inicialiera o Mos ale ratione wiere wie a wie o willie (Maio vi vio a cilie a cilie). L	and the second of the below the second beautiful to
Maximum of log data	1.609438	95% UCLs (Assuming Lognormal Distri	bution)
Mean of log data	-0.495894	95% H-UCL	0.80452
Standard Deviation of log data	0.501039	95% Chebyshev (MVUE) UCL	0.93708
Variance of log data	0.25104	97.5% Chebyshev (MVUE) UCL	1.04484
NASSA STANDARD NASTA		99% Chebyshev (MVUE) UCL	1.25650
	T	95% Non-parametric UCLs	
		CLT UCL	0.9441
		Adj-CLT UCL (Adjusted for skewness)	1.03985
The state of the s		Mod-t UCL (Adjusted for skewness)	0.9640
		Jackknife UCL	0.94911
		Standard Bootstrap UCL	0.93751
		Bootstrap-t UCL	1,29147
RECOMMENDATION		Hall's Bootstrap UCL	1.54029
Data are Non-parametric (0	).05)	Percentile Bootstrap UCL	0.952
терия при		BCA Bootstrap UCL	1.0712
Use 95% Chebyshev (Mean,	Sd) UCL	95% Chebyshev (Mean, Sd) UCL	1.27901
		97.5% Chebyshev (Mean, Sd) UCL	1.51171
		99% Chebyshev (Mean, Sd) UCL	1.96879

Data File C:\Documents and Se	ettings\Admini	strator\De Variable:  Tetrachloroethene (PC	ÇE)
Raw Statistics		Normal Distribution Test	en mercinicanic menticire in the
Number of Valid Samples	40	Shapiro-Wilk Test Statisitic	0.339884
Number of Unique Samples	11	Shapiro-Wilk 5% Critical Value	0.94
Minimum lug/L	0.5	Data not normal at 5% significance level	
Maximum lug/L	110		.1
Mean	7.3875	95% UCL (Assuming Normal Distribu	tion)
Median	0.5	Student's-t UCL	13.51404
Standard Deviation	22.99736		1 10.01.10
Variance	528.8786	Gamma Distribution Test	mine sine stank simile and some
Coefficient of Variation	3.11301	A-D Test Statistic	8.864988
Skewness	4.041108	A-D 5% Critical Value	0.845895
OREWIESS	1 4.041106	K-S Test Statistic	0.426367
Corone Statistics		The state of the s	
Gamma Statistics	0.050507	K-S 5% Critical Value	0.150414
k hat	0.352897	Data do not follow gamma distribution	an anticom, the property of the state of the
k star (bias corrected)	0.343096	at 5% significance level	
Theta hat	20.93389	ницьмин тембрині натріання принця макантурання принця принця принця принця принця принця принця принця принця п	
Theta star	21.53187	95% UCLs (Assuming Gamma Distributi	
nu hat	28.23173	Approximate Gamma UCL	12.29147
nu star	27.44768	Adjusted Gamma UCL	12,53388
Approx.Chi Square Value (.05)	16.49679		nia mimiainiia nimia niihaiiht
Adjusted Level of Significance	0.044	Lognormal Distribution Test	
Adjusted Chi Square Value	16.17773	Shapiro-Wilk Test Statisitic	0.590632
		Shapiro-Wilk 5% Critical Value	0.94
Log-transformed Statistics		Data not lognormal at 5% significance levi	el
Minimum of log data	-0.693147		
Maximum of log data	4.70048	95% UCLs (Assuming Lognormal Distri	bution)
Mean of log data	0.096866	95% H-UCL	7.27226
Standard Deviation of log data	1.519168	95% Chebyshev (MVUE) UCL	7.806134
Variance of log data	2.307871	97.5% Chebyshev (MVUE) UCL	9.757188
		99% Chebyshev (MVUE) UCL	13.58966
AND THE RESIDENCE OF THE PROPERTY OF THE PROPE	T	95% Non-parametric UCLs	
		CLT UCL	13.36852
		Adj-CLT_UCL (Adjusted for skewness)	15.85107
		Mod-t UCL (Adjusted for skewness)	13.90127
Martinia habita artarol jahna na esti omo ika eti osto fine aposto tradici habita isto del colorido in alternativo in aposto menerale ana sa martina ana na esti osmal cui	такта тактоо да тактранна потводина на Матакт	Jackknife UCL	13.51404
annie acumuma adminara propriedenta acumpia de annie acumpia a	of employed the median recording to the second repolarization con-	Standard Bootstrap UCL	13.46151
		Bootstrap-t UCL	36.89699
RECOMMENDATION	mind seminase a me eminimos aminos ami	Hall's Bootstrap UCL	39.96261
Data are Non-parametric (0	1.05)	Percentile Bootstrap UCL	13.8575
Data are mortiperametric (C		BCA Bootstrap UCL	17.1525
Use 99% Chebyshev (Mean,	84/1101	95% Chebyshev (Mean, Sd) UCL	23.23734
Use as to Orienyshev Intean,	SU) UUL	#100.2   10.4	
		97.5% Chebyshev (Mean, Sd) UCL	30.09557
	1	99% Chebyshev (Mean, Sd) UCL	43.56725

Raw Statistics		Normal Distribution Test	
Number of Valid Samples	40	Shapiro-Wilk Test Statisitic	0.651597
Number of Unique Samples	13	Shapiro-Wilk 5% Critical Value	0.001007
Minimum ug/L	0.5	Data not normal at 5% significance level	·····
Maximum ug/L	5	Data not normal at 0 70 org. moanoe 10 to	1
Mean	1.02875	95% UCL (Assuming Normal Distribut	tion) :
Median	0.725	Student's-t UCL	1.244626
Standard Deviation	0.810341	MATERIAL STATES AND	·
Variance	0.656652	Gamma Distribution Test	
Coefficient of Variation	0.787695	A-D Test Statistic	2.80917
Skewness	3.220969	A-D 5% Critical Value	0.755776
		K-S Test Statistic	0.279128
Gamma Statistics	***************************************	K-S 5% Critical Value	0.140639
k hat	2.751501	Data do not follow gamma distribution	eriteratus il manifesteritati de la compansa a companida
k star (bias corrected)	2.561805	at 5% significance level	an, pripagr, primitipi i daprimi prim
Theta hat	0.373887		·
Theta star	0.401572	95% UCLs (Assuming Gamma Distribution	on)
nu hat	220.1201	Approximate Gamma UCL	1.22003
nu star	204.9444	Adjusted Gamma UCL	1.227873
Approx.Chi Square Value (.05)	172.8119		
Adjusted Level of Significance 0.044		Lognormal Distribution Test	
Adjusted Chi Square Value	171.7088	Shapiro-Wilk Test Statisitic	0.812334
		Shapiro-Wilk 5% Critical Value	0.94
Log-transformed Statistics		Data not lognormal at 5% significance leve	9
Minimum of log data	-0.693147		
Maximum of log data	1.609438	95% UCLs (Assuming Lognormal Distri	bution)
Mean of log data	-0.164244	95% H-UCL	1.21260
Standard Deviation of log data	0.586474	95% Chebyshev (MVUE) UCL	1.43426
Variance of log data	0.343952	97.5% Chebyshev (MVUE) UCL	1.62098
त साम्य करवास्त्राच्यास्यास्यास्यास्यास्य साम्यास्य साम्यास्य साम्यास्य साम्यास्य स्थापनाः स्थापनाः स्थापनाः स		99% Chebyshev (MVUE) UCL	1.98775
		95% Non-parametric UCLs	
		CLT UCL	1.239499
ene-interior (de energiais sustantes systematicanis de l'unitare au la metantique pripripripripripripri		Adj-CLT UCL (Adjusted for skewness)	1.30922
		Mod-t UCL (Adjusted for skewness)	1.25550
of street, street, and street,		Jackknife UCL	1.244620
		Standard Bootstrap UCL	1.24055
nucesimi en unite en el munici e en est initia estimina el ministra en municipalità de la companya de la compa		Bootstrap-t UCL	1.35429
RECOMMENDATION		Hall's Bootstrap UCL	2.21569
Data are Non-parametric (0.05)		Percentile Bootstrap UCL	1.2
		BCA Bootstrap UCL	1.307
Use 95% Chebyshev (Mean,	Sd) UCL	95% Chebyshev (Mean, Sd) UCL	1.587239
		97.5% Chebyshev (Mean, Sd) UCL	1.82889
		99% Chebyshev (Mean, Sd) UCL	2.303589

Raw Statistics	- Times and a super supe	Normal Distribution Test	
Number of Valid Samples	38	Shapiro-Wilk Test Statisitic	0.353817
Number of Unique Samples	7	Shapiro-Wilk 5% Critical Value	0.938
Minimum ug/L	0.5	Data not normal at 5% significance level	
Maximum ug/L	16		
Vlean	1.486842	95% UCL (Assuming Normal Distribu	tion)
Median	0.5	Student's-t UCL	2.37625
Standard Deviation	3.249796		
Variance	10.56117	Gamma Distribution Test	
Coefficient of Variation	2.185703	A-D Test Statistic	10.5941
Skewness	3.826728	A-D 5% Critical Value	0.78639
		K-S Test Statistic	0.507399
Gamma Statistics		K-S 5% Critical Value	0.148522
k hat	0.798586	Data do not follow gamma distribution	
star (bias corrected)	0.753084	at 5% significance level	
Theta hat	1.861843		an ath wurin athird and
Theta star	1.974338	95% UCLs (Assuming Gamma Distributi	on)
nu hat	60.69255	Approximate Gamma UCL	2.08364
nu star	57.23436	Adjusted Gamma UCL	2.11336
Approx.Chi Square Value (.05)	40.84107		
Adjusted Level of Significance	0.0434	Lognormal Distribution Test	
Adjusted Chi Square Value	40.26683	Shapiro-Wilk Test Statisitic	0.45029
		Shapiro-Wilk 5% Critical Value	0.93
Log-transformed Statistics		Data not lognormal at 5% significance lev	el
Minimum of log data	-0.693147		process and an annual contract of the second process for the second seco
Maximum of log data	2.772589	95% UCLs (Assuming Lognormal Distr	
Mean of log data	-0.346697	95% H-UCL	1.47113
Standard Deviation of log data	0.893928	95% Chebyshev (MVUE) UCL	1.78508
Variance of log data	0.799107	97.5% Chebyshev (MVUE) UCL	2.1077
י אירות ומיצה אירות מינה או מוניתי מי אות ומינה או מותר בי אירות אירות או אירות אירות אותר אירות או מינה אירות - אירות המיצה או המונית האו מונית האו אותר אותר אותר ביותר אותר אותר אותר אותר אותר אותר אותר א	***************************************	99% Chebyshev (MVUE) UCL	2.741656
tuabrookselkoolisekselkollisiska halkisiskoi järgeti liikiska kassisteena eraaliseena maasaanaan ja plootiseena mart a eti siseenamanaiseasaanaan ja plootiseena mart a eti siseenamanaiseasaanaan ja plootiseena mart a eti siseenamanaiseasaanaan ja plootiseenamanaiseasaanaan ja plootiseenamanaiseasaanaanaanaanaanaanaanaanaanaanaanaanaa		95% Non-parametric UCLs	
		CLT UCL	2.35398
		Adj-CLT UCL (Adjusted for skewness)	2.70367
		Mod-t UCL (Adjusted for skewness)	2.430799
		Jackknife UCL	2.37625
		Standard Bootstrap UCL	2.34318
		Bootstrap-t UCL	4.85290
RECOMMENDATION		Hall's Bootstrap UCL	5.47578
Data are Non-parametric (0	.05)	Percentile Bootstrap UCL	2.38421
		BCA Bootstrap UCL	2.68421
Use 95% Chebyshev (Mean, S	3d) UCL	95% Chebyshev (Mean, Sd) UCL	3.78479
	T TIME THE PARTY OF THE PARTY O	97.5% Chebyshev (Mean, Sd) UCL	4.77912
		37.376 Onebyshov (Mean, Od) CCL	7.17012

Raw Statistics		Normal Distribution Test	
Number of Valid Samples	40	Shapiro-Wilk Test Statisitic	0.300218
Number of Unique Samples	7	Shapiro-Wilk 5% Critical Value	0.94
Minimum lug/L	0.5	Data not normal at 5% significance level	
Maximum  ug/L	54	иопияния вежиме чистечния чистечния чистечния вежимення вечилення в 💯 вине чистечня вечинення в 44 (44) в на ворога в 44 (45) в на ворога в 44 (46) в на ворога в 44 (46) в на ворога в	Ja.,
Mean	2.84625	95% UCL (Assuming Normal Distribut	lion)
Median	0.5	Student's-t UCL	5.27995
Standard Deviation	9.135444		
Variance	83.45633	Gamma Distribution Test	
Coefficient of Variation	3.209642	A-D Test Statistic	12.00759
Skewness	4.965464	A-D 5% Critical Value	0,81792
		K-S Test Statistic	0.513905
Gamma Statistics	duktered dubbulk mederbermellism midder of elif	K-S 5% Critical Value	0.147978
k hat	0.478456	Data do not foliow gamma distribution	
k star (bias corrected)	0.459239	at 5% significance level	
Theta hat	5.948817		
Theta star	6.197755	95% UCLs (Assuming Gamma Distribution	on)
nu hat	38.27652	Approximate Gamma UCL	4.38220
nu star	36.73911	Adjusted Gamma UCL	4.45497
Approx.Chi Square Value (.05)	23.86212		
Adjusted Level of Significance	0.044	Lognormal Distribution Test	
Adjusted Chi Square Value	23.47233	Shapiro-Wilk Test Statisitic	0.42466
		Shapiro-Wilk 5% Critical Value	0.9
Log-transformed Statistics		Data not lognormal at 5% significance leve	el
Minimum of log data	-0.693147		
Maximum of log data	3.988984	95% UCLs (Assuming Lognormal Distri	
Mean of log data	-0.290706	95% H-UCL	2.160069
Standard Deviation of log data	1.110707	95% Chebyshev (MVUE) UCL	2.59123
Variance of log data	1.23367	97.5% Chebyshev (MVUE) UCL	3.127089
яная», янняму янням этриняму приняму виненняму быльным мерененняму виненняму виненняму виненняму виненняму вин		99% Chebyshev (MVUE) UCL	4.179670
		95% Non-parametric UCLs	a farth faraith a farait a faraith faraith
		CLT UCL	5.222143
		Adj-CLT UCL (Adjusted for skewness)	6.43388
		Mod-t UCL (Adjusted for skewness)	5.46895
		Jackknife UCL	5.27995
		Standard Bootstrap UCL	5.16516
		Bootstrap-t UCL	10.5559
RECOMMENDATION		Hall's Bootstrap UCL	11.5835
Data are Non-parametric (C	.05)	Percentile Bootstrap UCL	5.487
A THE STATE OF THE		BCA Bootstrap UCL	6.
Use 99% Chebyshev (Mean, :	Sd) UCL	95% Chebyshev (Mean, Sd) UCL	9.1424
		97.5% Chebyshev (Mean, Sd) UCL	11.8667
		99% Chebyshev (Mean, Sd) UCL	17.2182

Raw Statistics		Normal Distribution Test	
Number of Valid Samples	40	Shapiro-Wilk Test Statisitic	0.339925
Number of Unique Samples	9	Shapiro-Wilk 5% Critical Value	0.94
Minimum ug/L	0.5	Data not normal at 5% significance level	······································
Maximum lug/L	210	beardithe wide beautiste de water with the three states with seaton with the wide meaning or an immening a nime	
Mean	10.77	95% UCL (Assuming Normal Distribu	tion)
Median	0.5	Student's-t UCL	20.08576
Standard Deviation	34.96881		
Variance	1222.818	Gamma Distribution Test	Autor Shireman manager
Coefficient of Variation	3.246872	A-D Test Statistic	10.25683
Skewness	5.059538	A-D 5% Critical Value	0.857579
		K-S Test Statistic	0.492294
Gamma Statistics	the production of the control of the	K-S 5% Critical Value	0.151431
k hat	0.300452	Data do not follow gamma distribution	
k star (bias corrected)	0.294585	at 5% significance level	а, шаланыналаны станылан
Theta hat	35.84596	The state of the s	
Theta star	36.5599	95% UCLs (Assuming Gamma Distributi	on)
nu hat	24.03618	Approximate Gamma UCL	18.77603
nu star	23.5668	Adjusted Gamma UCL	19.18195
Approx.Chi Square Value (.05)	13.51801		
Adjusted Level of Significance	0.044	Lognormal Distribution Test	
Adjusted Chi Square Value	13.23195	Shapiro-Wilk Test Statisitic	0.509527
oremental contractor control in real and second demands of the control of the con		Shapiro-Wilk 5% Critical Value	0.94
Log-transformed Statistics		Data not lognormal at 5% significance leve	inglise further three in the benight and and with anti-
Minimum of log data	-0.693147	हन्य अनुनाम साम्माहरूसम्बद्धास्य अस्ति हिन्द्रसम्बद्धाः सम्बद्धाः स्वति अन्यति । सम्बद्धाः सम्बद्धाः सम्बद्धाः सम्बद्धाः	me a servar servar masen a s
Maximum of log data	5.347108	95% UCLs (Assuming Lognormal Distri	bution)
Mean of log data	0.082237	95% H-UCL	11,23352
Standard Deviation of log data	1.701574	95% Chebyshev (MVUE) UCL	11.0044
Variance of log data	2.895354	97.5% Chebyshev (MVUE) UCL	13.92332
Marin element destructions en autorité a moit au définie au marin de la companyant de la companyant de parties		99% Chebyshev (MVUE) UCL	19.65697
THE AT MITE IN MINISTER AT STREET PROPERTY AND THE AND THE ADMINISTRATION OF MINISTER AND THE ADMINISTRATION OF THE ADMINISTRATION O	Adular employs to the modulities and	95% Non-parametric UCLs	innientierideihidienenieri
		CLT UCL	19.86448
Conversion of the Conversion o		Adj-CLT UCL (Adjusted for skewness)	24.59068
		Mod-t UCL (Adjusted for skewness)	20.82296
		Jackknife UCL	20.08576
		Standard Bootstrap UCL	19.75049
		Bootstrap-t UCL	36.97638
RECOMMENDATION	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Hall's Bootstrap UCL	48.90961
Data are Non-parametric (0	0.05)	Percentile Bootstrap UCL	21.075
		BCA Bootstrap UCL	27.13
Use 99% Chebyshev (Mean,	Sd) UCL	95% Chebyshev (Mean, Sd) UCL	34.87059
		97.5% Chebyshev (Mean, Sd) UCL	45.29893
		99% Chebyshev (Mean, Sd) UCL	65.78339

Raw Statistics		Normal Distribution Test	
Number of Valid Samples	40	Shapiro-Wilk Test Statisitic	0.423539
Number of Unique Samples	6	Shapiro-Wilk 5% Critical Value	0.94
Minimum ug/L	0.5	Data not normal at 5% significance level	
Maximum ug/L	5.1	можения об до 1900 г. — 1900 г Становического применення	
Mean	1.1475	95% UCL (Assuming Normal Distribu	tion)
Median	1	Student's-t UCL	1.398206
Standard Deviation	0.941082		
Variance	0.885635	Gamma Distribution Test	
Coefficient of Variation	0.820115	A-D Test Statistic	6.960493
Skewness	3.795167	A-D 5% Critical Value	0.75377
		K-S Test Statistic	0.426295
Gamma Statistics		K-S 5% Critical Value	0.140292
k hat	3.427729	Data do not follow gamma distribution	
k star (bias corrected)	3.187316	at 5% significance level	
Theta hat	0.33477		
Theta star	0.360021	95% UCLs (Assuming Gamma Distributi	on)
nu hat	274.2183	Approximate Gamma UCL	1.33602
nu star	254.9853	Adjusted Gamma UCL	1.34367
Approx.Chi Square Value (.05)	219.0043	TO STORY I THE A METERS AND A STREET HE AND A STREET AS A STREET AND A STREET AS A STR	
Adjusted Level of Significance	0.044	Lognormal Distribution Test	
Adjusted Chi Square Value	217.7583	Shapiro-Wilk Test Statisitic	0.652987
		Shapiro-Wilk 5% Critical Value	0.94
Log-transformed Statistics	ingenius annual annual annual annual	Data not lognormal at 5% significance levi	el
Minimum of log data	-0.693147		
Maximum of log data	1.629241	95% UCLs (Assuming Lognormal Distri	May -11 - 100 - 1 - 11 - 1 - 1 - 1 - 1 - 1
Mean of log data	-0.015318	95% H-UCL	1.281133
Standard Deviation of log data	0.483072	95% Chebyshev (MVUE) UCL	1.48684
Variance of log data	0.233358	97.5% Chebyshev (MVUE) UCL	1.652892
	*	99% Chebyshev (MVUE) UCL	1.979054
CAT the of material and materia		95% Non-parametric UCLs	ang antagang san pangganggapan anggang pang anggangganga
		CLT UCL	1.39225
		Adj-CLT UCL (Adjusted for skewness)	1.487658
		Mod-t UCL (Adjusted for skewness)	1.413088
		Jackknife UCL	1.398206
		Standard Bootstrap UCL	1.388160
		Bootstrap-t UCL	1.982422
RECOMMENDATION		Hall's Bootstrap UCL	2.862803
Data are Non-parametric (0	0.05)	Percentile Bootstrap UCL	1.4
AND THE RESIDENCE OF THE PROPERTY OF THE PROPE		BCA Bootstrap UCL	1.48
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	1.79609
or Modified-t UCL		97.5% Chebyshev (Mean, Sd) UCL	2.076744
		99% Chebyshev (Mean, Sd) UCL	2.628022

Data File C:\Documents and Se	ttings\Admini	strator\De Variable: Total Xylenes	
Raw Statistics	Arm treasure measured as of blacks beat of the lar	Normal Distribution Test	anne and see see in specially and analysis of the first see that are an
Number of Valid Samples	38	Shapiro-Wilk Test Statisitic	0.267574
Number of Unique Samples	4	Shapiro-Wilk 5% Critical Value	0.207074
Minimum ug/L	0.5	Data not normal at 5% significance level	1
Maximum ug/L	6.4		
Mean	0.786842	95% UCL (Assuming Normal Distribu	rtion)
Median	r. Balantanian san ramani wa katanini na talini ani ali inganari	file fuller bland flerstein frest af at et statiste file feldet 1915 feldet 1915 februar at an arman and an arman and arman arman and arman arma	1.111864
	0.5	Student's-t UCL	1.111004
Standard Deviation	1.187587		
Variance	1.410363	Gamma Distribution Test	10.04047
Coefficient of Variation	1.509308	A-D Test Statistic	13.04017
Skewness	4.272257	A-D 5% Critical Value	0.762359
appears a man supermitter and the control of the supermitter and the control of the control of the supermitter and the supermi	**************************************	K-S Test Statistic	0.539371
Gamma Statistics		K-S 5% Critical Value	0.145358
k hat	1.774493	Data do not follow gamma distribution	anne 11-16 industributed a teles industribute recommunication
k star (bias corrected)	1.651945	at 5% significance level	
Theta hat	0.443418		
Theta star	0.476312	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	134.8615	Approximate Gamma UCL	0.981346
nu star	125.5478	Adjusted Gamma UCL	0.990418
Approx.Chi Square Value (.05)	100.6641		
Adjusted Level of Significance	0.0434	Lognormal Distribution Test	Milital Lefterbild Lefuerus ver Lythidds unter undanvertal
Adjusted Chi Square Value	99.74208	Shapiro-Wilk Test Statisitic	0.291283
e te el cualità e viventa (consettis e tisse tisse tisse est en este en altri de consecuencia di un		Shapiro-Wilk 5% Critical Value	0.938
Log-transformed Statistics	T T	Data not lognormal at 5% significance lev	- Angel Andreas Andreas (1905) from some company of the company of
Minimum of log data	-0.693147		BOOK III BOOK WATER BOOK II BO
Maximum of log data	1.856298	95% UCLs (Assuming Lognormal Distr	ibution)
Mean of log data	-0.547221	95% H-UCL	0.807831
Standard Deviation of log data	0.556845	95% Chebyshev (MVUE) UCL	0.952542
are named to see the second control of the s	en 👼 e 164 anterior en 1663 e 1617 anterior este canada en 164 anterior est español (1617 anterior en 164 antigat esta	97.5% Chebyshev (MVUE) UCL	1.073742
Variance of log data	0.310077		
-weathilliched land land later even beden delse bewend en en de en brand an an avenum des ann des an agan are	in abutanischen istaliscosion inn mödertenerenn	99% Chebyshev (MVUE) UCL	1.311816
		95% Non-parametric UCLs	an aparei en
		CLT UCL	1.103727
		Adj-CLT UCL (Adjusted for skewness)	1.246392
	1	Mod-t UCL (Adjusted for skewness)	1.134117
-		Jackknife UCL	1,111864
		Standard Bootstrap UCL	N/R
		Bootstrap-t UCL	N/R
RECOMMENDATION		Hall's Bootstrap UCL	N/R
Data are Non-parametric (0	.05)	Percentile Bootstrap UCL	N/R
Access was as a march of a material state of the second allowed as the hand of the second as a second		BCA Bootstrap UCL	N/R
Llos 059/ Chahyahay (Magn. Sd) LICI		95% Chebyshev (Mean, Sd) UCL	1.626593
Use 95% Chehyshev (Mean S	sd) UCL 🔱	30 /6 Offervoller Hiteatt and Ook	
Use 95% Chebyshev (Mean, S	sa) UCL		whire the same in London manufacture and correction contents.
Use 95% Chebyshev (Mean, S	Sa) UCL	97.5% Chebyshev (Mean, Sd) UCL 99% Chebyshev (Mean, Sd) UCL	1.989954 2.703706

Data File C:\Documents and Se	ttinas\Admini	stratorVariable: VOCs in Groundwate	r Samples
1,1-Dichloroethane		Strator Des Variable. VOOS III Groundwate	Camples
Raw Statistics		Normal Distribution Test	un arrennererr neren dest elst ellethete (-198
Number of Valid Samples	5	Shapiro-Wilk Test Statisitic	0.72228
Number of Unique Samples	3	Shapiro-Wilk 5% Critical Value	0.72220
	. <del></del>	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	0.762
Minimum ug/L	0.5	Data not normal at 5% significance level	1
Maximum ug/L	2.5		
Mean	1.02	95% UCL (Assuming Normal Distribu	
Median	0.5	Student's-t UCL	1.846761
Standard Deviation	0.867179	ата развити и вета вей на вибејев на виста вежива на правите вит вет произго избетива на вешт велита с пъвети	end out on accordance correlate the establish
Variance	0.752	Gamma Distribution Test	navogi volenini interet interete vledini 1960 Mini 1800 Addin
Coefficient of Variation	0.850176	A-D Test Statistic	0.712449
Skewness	1.802125	A-D 5% Critical Value	0.683912
		K-S Test Statistic	0.368348
Gamma Statistics		K-S 5% Critical Value	0.36016
k hat	2.295356	Data do not follow gamma distribution	Control Contro
k star (bias corrected)	1.051476	at 5% significance level	nd for exterior and nevertion or return consent returned evidence of a con-
Theta hat	0.444376	***************************************	CONTRACTOR OF A CONTRACTOR OF THE PROPERTY OF
Theta star	0.970065	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	22.95356	Approximate Gamma UCL	2.514598
nu star	10.51476	Adjusted Gamma UCL	3.953803
	-	Aujusteu Gairiira OCL	1 3.933003
Approx.Chi Square Value (.05)	4.265115		
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	
Adjusted Chi Square Value	2.712591	Shapiro-Wilk Test Statisitic	0.769804
	·	Shapiro-Wilk 5% Critical Value	0.762
Log-transformed Statistics		Data are lognormal at 5% significance lev	<b>/el</b>
Minimum of log data	-0.693147		ramanon forquasiyah safornalarınadıra vedesilindi safo sakililinin adır. Ultim
Maximum of log data	0.916291	95% UCLs (Assuming Lognormal Distr	
Mean of log data	-0.213568	95% H-UCL	3.990647
Standard Deviation of log data	0.717979	95% Chebyshev (MVUE) UCL	2.338856
Variance of log data	0.515494	97.5% Chebyshev (MVUE) UCL	2.924199
		99% Chebyshev (MVUE) UCL	4.073992
		95% Non-parametric UCLs	isklor vak varikklor var fræfni skrive varskloktolæktelinden folkskel.
ingi-ing-ing-ing-ing-ing-ing-ing-ing-ing	is on the sustain initial initial states in the initial states of	CLT UCL	1.657898
		Adj-CLT UCL (Adjusted for skewness)	1.991866
e marcia montanti meneria manciani manciani manciani manciani manciani manciani pi indistributori (1916) di Indistributor		Mod-t UCL (Adjusted for skewness)	1.898853
	<b>.</b>	Jackknife UCL	1.846761
	<b> </b>	Standard Bootstrap UCL	N/R
	1		N/R
DECORAGENEDATION		Bootstrap-t UCL	
RECOMMENDATION		Hall's Bootstrap UCL	N/R
Data are lognormal (0.05)		Percentile Bootstrap UCL	N/R
		BCA Bootstrap UCL	N/R
Use H-UCL		95% Chebyshev (Mean, Sd) UCL	2.710444
		97.5% Chebyshev (Mean, Sd) UCL	3.4419
della idean dessieste elaborisma maiatol desse productiva manageman manageman manageman manageman m		99% Chebyshev (Mean, Sd) UCL	4.878704
Recommended UCL exceeds the	maximum ol	oservation	

Data File C:\Documents and Se	ettings/Admiņi	strator\De Variable: VOCs in Groundwate	r Samples
1,2,4-Trimethylbenzene		MININAMENT SANIBURAN PANIBURA BEAGAINA MININAMENTA PERSANIAN SETUMBERANDA SETUMBANIAN SETUMBANIAN SETUMBANIAN	
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	5	Shapiro-Wilk Test Statisitic	0.610644
Number of Unique Samples	3	Shapiro-Wilk 5% Critical Value	0.762
Minimum ug/L	0.5	Data not normal at 5% significance level	
Maximum ug/L	23		
Mean	5.4	95% UCL (Assuming Normal Distrib	ution)
Median	0.5	Student's-t UCL	14.81639
Standard Deviation	9.87674		
Variance	97.55	Gamma Distribution Test	
Coefficient of Variation	1.829026	A-D Test Statistic	0.810526
Skewness	2.194502	A-D 5% Critical Value	0.71198
		K-S Test Statistic	0.357135
Gamma Statistics		K-S 5% Critical Value	0.37192
k hat	0.492767	Data follow approximate gamma distibuti	
k star (bias corrected)	0.33044	at 5% significance level	si de de los anticos estados en los
Theta hat	10.95852		
Theta star	16.34184	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	4.927673	Approximate Gamma UCL	38.14216
nu star	3.304402	Adjusted Gamma UCL	100.3606
Approx.Chi Square Value (.05)	0.467823	and an indicate and an indicate an indicate and an indicate an indicate an indicate and an indicate an	
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	Extense v. on. n. x. on. v. on. x. on. x. on.
Adjusted Chi Square Value	0.177797	Shapiro-Wilk Test Statisitic	0.758916
annie Annie miane annie en	3 31117131	Shapiro-Wilk 5% Critical Value	0.762
Log-transformed Statistics		Data not lognormal at 5% significance lev	m. relative name on recommendation reconstruct
Minimum of log data	-0.693147		
Maximum of log data	3.135494	95% UCLs (Assuming Lognormal Dist	ribution)
Mean of log data	0.394469	95% H-UCL	4916.518
Standard Deviation of log data	1.683318	95% Chebyshev (MVUE) UCL	15.22277
Variance of log data	2.833561	97.5% Chebyshev (MVUE) UCL	20.10694
		99% Chebyshev (MVUE) UCL	29.70094
		95% Non-parametric UCLs	
and the second s		CLT UCL	12.66534
		Adj-CLT UCL (Adjusted for skewness)	17.29725
THE WINDS AND THE WASHINGTON TO BE A STATE OF THE STATE O	1	Mod-t UCL (Adjusted for skewness)	15.53887
QUARTER STATE (1945) - 1947   1947		Jackknife UCL	14.81639
nutinative in which there we are a subjection in the subject of th		Standard Bootstrap UCL	N/R
		Bootstrap-t UCL	N/R
RECOMMENDATION		Hall's Bootstrap UCL	N/R
Assuming gamma distribution	n (0.05)	Percentile Bootstrap UCL	N/R
Assuming gamina distributio	лт (U.UƏ)		N/R
Lies Adjusted Common HO		BCA Bootstrap UCL	
Use Adjusted Gamma UCL		95% Chebyshev (Mean, Sd) UCL	24.65331
		97.5% Chebyshev (Mean, Sd) UCL	32.98423
	:		49.34872
Recommended UCL exceeds the	e maximum ot	99% Chebyshev (Mean, Sd) UCL	49.34872

Data File C:\Documents and Se	ettings\Admini	strator\De(Variable: VOCs in Groundwate	r Samples
1,3,5-Trimethylbenzene			
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	5	Shapiro-Wilk Test Statisitic	0.738536
Number of Unique Samples	3	Shapiro-Wilk 5% Critical Value	0.762
Minimum ug/L	0.5	Data not normal at 5% significance level	
Maximum ug/L	6.3	ENA KUMPUNTAN WUMBANAN TRIKU ANYANCA AMISTIANA KUCIBILUB KUMPUNTA KUNPUTAN KUCEAN TIALA TUCEAN TUCEAN TUCEAN T	
Mean	2.06	95% UCL (Assuming Normal Distribu	ıtion)
Median	0.5	Student's-t UCL	4.465871
Standard Deviation	2.52349		kentrali olari arda estre den del altra del
Variance	6.368	Gamma Distribution Test	Kalibiri dukaran menerintah duka
Coefficient of Variation	1.224995	A-D Test Statistic	0.690274
Skewness	1.683329	A-D 5% Critical Value	0.691762
M EAGLE CARD LAW (COMMEN SEALOR SEALO		K-S Test Statistic	0.381115
Gamma Statistics		K-S 5% Critical Value	0.364548
k hat	0.984736	Data follow approximate gamma distibution	
k star (bias corrected)	0.527228	at 5% significance level	
Theta hat	2.091931		
Theta star	3.90723	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	9.84736	Approximate Gamma UCL	8.487754
nu star	5.272277	Adjusted Gamma UCL	17.78505
Approx.Chi Square Value (.05)	1.279595	7 talastoa darriita ool	1.111,0000
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	z annik amalaniz yija znaziwa
Adjusted Chi Square Value	0.610675	Shapiro-Wilk Test Statisitic	0.770017
A CONTROL OF THE PROPERTY OF T		Shapiro-Wilk 5% Critical Value	0.762
Log-transformed Statistics		Data are lognormal at 5% significance lev	erodostrorustourestatisticus etchinisticus
Minimum of log data	-0.693147	retransition to the state of th	<u> </u>
Maximum of log data	1.84055	95% UCLs (Assuming Lognormal Distr	ibution)
Mean of log data	0.13548	95% H-UCL	66.2772
Standard Deviation of log data	1.180762	95% Chebyshev (MVUE) UCL	6.05679
Variance of log data	1.394199	97.5% Chebyshev (MVUE) UCL	7.849352
Variation of rog data	1,004100	99% Chebyshev (MVUE) UCL	11.37049
		mere secure secure as more consecutors con minimal description and secutors of the consecutor and consecutors of the consecutor	1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		95% Non-parametric UCLs	
		CLT UCL	3.916281
		Adj-CLT UCL (Adjusted for skewness)	4.824062
and the second s		Mod-t UCL (Adjusted for skewness)	4.607466
A CALLES TO A CALL AND THE A CALL AND THE A CALL AND THE ACTUAL AN		Jackknife UCL	4.465871
	- In Contract Contract and Inc.	Standard Bootstrap UCL	N/R
		Bootstrap-t UCL	N/R
RECOMMENDATION		Hall's Bootstrap UCL	N/R
Assuming gamma distributio	n (0.05)	Percentile Bootstrap UCL	N/R
gamping maning specific site is in Street and a second second second second second second second second second		BCA Bootstrap UCL	N/R
Use Approximate Gamma UC	)L	95% Chebyshev (Mean, Sd) UCL	6.979187
	THE STREET STREET, STR	97.5% Chebyshev (Mean, Sd) UCL	9.107723
	·····	99% Chebyshev (Mean, Sd) UCL	13.28882
Recommended UCL exceeds the	a maximum ob	a mine an intermited a intermed anniellameta Mile flows one aldest Milia alian de ileated in a mine annie du	August and and and and

Data File   C:\Documents and Sesc-Butylbenzene	etungsvaaminis	strator\De Variable: VOCs in Groundwate	r Samples T
Raw Statistics		Normal Distribution Test	
Number of Valid Samples		Shapiro-Wilk Test Statisitic	0.73825
The state of the s	5	to the desired and the second and th	0.73828
Number of Unique Samples	3	Shapiro-Wilk 5% Critical Value	0.762
Minimum ug/L	0.5	Data not normal at 5% significance level	
Maximum  ug/L	73	oco/ Hol //	and a second
Mean	24.3	95% UCL (Assuming Normal Distribu	
Median	16	Student's-t UCL	51.03236
Standard Deviation	28.03926	a massamus saus saus saus saus saus saus	was willing and assume a supplier
Variance	786.2	Gamma Distribution Test	
Coefficient of Variation	1.153879	A-D Test Statistic	0.528944
Skewness	1.895878	A-D 5% Critical Value	0.698636
one with the second of the second of the second	Umia nima naikanima nima nam	K-S Test Statistic	0.325765
Gamma Statistics		K-S 5% Critical Value	0.36682
k hat	0.742405	Data follow gamma distribution	
k star (bias corrected)	0.430295	at 5% significance level	
Theta hat	32.73147		
Theta star	56.47285	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	7.424049	Approximate Gamma UCL	123.8023
nu star	4.302953	Adjusted Gamma UCL	289.2632
Approx.Chi Square Value (.05)	0.844587		
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	annote a abaid de dont de de de
Adjusted Chi Square Value	0.361476	Shapiro-Wilk Test Statisitic	0.809214
Comments of the Comments of th		Shapiro-Wilk 5% Critical Value	0.762
Log-transformed Statistics		Data are lognormal at 5% significance lev	<del></del>
Minimum of log data	-0.693147		TO I
Maximum of log data	4.290459	95% UCLs (Assuming Lognormal Distr	ibution)
Mean of log data	2.383016	95% H-UCL	171357.4
Standard Deviation of log data	1.840952	95% Chebyshev (MVUE) UCL	137.2949
	an framework with the following the following	- wind controvening with a time during authors and well and you minuted the comparison of an in- well and a single author and a single	The present the remaining in the
Variance of log data	3.389105	97.5% Chebyshev (MVUE) UCL	182,0377
		99% Chebyshev (MVUE) UCL	269,9263
omolom, m cano de listo mol de indical la America (color) ha, molomando caldrone o demico de la logo en cano i La color de la composição de la color d		95% Non-parametric UCLs	
and the second of the second o		CLT UCL	44.9257
		Adj-CLT UCL (Adjusted for skewness)	56.28594
and the second s	m with the street of the stree	Mod-t UCL (Adjusted for skewness)	52.80433
		Jackknife UCL	51.03236
	and the original resource of the security of	Standard Bootstrap UCL	N/R
		Bootstrap-t UCL	N/R
RECOMMENDATION		Hall's Bootstrap UCL	N/R
Data follow gamma distribution	on (0.05)	Percentile Bootstrap UCL	N/R
The second of th	The same of the sa	BCA Bootstrap UCL	N/R
Use Approximate Gamma UC	71	95% Chebyshev (Mean, Sd) UCL	78.9585
OSE Approximate Gamma OC	/_	97.5% Chebyshev (Mean, Sd) UCL	102.6094
		<del></del>	
Recommended UCL exceeds the		99% Chebyshev (Mean, Sd) UCL	149.0668

Data File C:\Documents and Se	ettings\Admini	strator\De Variable: VOCs in Groundwate	r Samples
Benzene	No demonstrate and the production of the second		H'reignie einitwalinein minania
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	5	Shapiro-Wilk Test Statisitic	0.967269
Number of Unique Samples	5	Shapiro-Wilk 5% Critical Value	0.762
Minimum ug/L	1.3	Data are normal at 5% significance level	
Maximum ug/L	3.6		
Mean	2.34	95% UCL (Assuming Normal Distribu	ition)
Median	2.3	Student's-t UCL	3.139371
Standard Deviation	0.838451		
Variance	0.703	Gamma Distribution Test	
Coefficient of Variation	0.358312	A-D Test Statistic	0.216735
Skewness	0.593963	A-D 5% Critical Value	0.679029
		K-S Test Statistic	0.1766
Gamma Statistics		K-S 5% Critical Value	0.357649
k hat	9.593712	Data follow gamma distribution	<u>,</u>
k star (bias corrected)	3.970818	at 5% significance level	
Theta hat	0.24391		
Theta star	0.589299	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	95.93712	Approximate Gamma UCL	3.537113
nu star	39.70818	Adjusted Gamma UCL	4.298851
Approx.Chi Square Value (.05)	26.26921	Addition daming ook	1.7.200001
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	ругас анагасана али жагиечна а
Adjusted Chi Square Value	21.61442	Shapiro-Wilk Test Statisitic	0.977515
Adjusted On Square value	21.01442	and the second s	0.377313
Lander was a Charleston	<del></del>	Shapiro-Wilk 5% Critical Value	<del></del>
Log-transformed Statistics Minimum of log data	0.000064	Data are lognormal at 5% significance lev	(6)
	0.262364	OSS/ LICLs /Acquiring Loggowa al Dist	ibution)
Maximum of log data	1.280934	95% UCLs (Assuming Lognormal Distr	3.820597
Mean of log data	0.797129	95% H-UCL	
Standard Deviation of log data	0.369572	95% Chebyshev (MVUE) UCL	4.022263
Variance of log data	0.136583	97.5% Chebyshev (MVUE) UCL	4.749043
managamin hada historia da dagaa inti sa nan sa sa santa anan assa sa sa sa asan tan a santa na sa santa na sa	H. A. OHD W. A. H. H. D. OHD WAS MANUAL OF	99% Chebyshev (MVUE) UCL	6.17666
		95% Non-parametric UCLs	promotive amounts for models by published anything before the starting of the
		CLT UCL	2.956765
		Adj-CLT UCL (Adjusted for skewness)	3.063191
		Mod-t UCL (Adjusted for skewness)	3.155971
		Jackknife UCL	3.139371
in thirte or the Medical Solite distance the order for the billing district and the minute or section of the co	Andrew Miletandrill Miletand Miletandria	Standard Bootstrap UCL	2.906151
		Bootstrap-t UCL	3.291408
RECOMMENDATION		Hall's Bootstrap UCL	3.643625
Data are normal (0.05)		Percentile Bootstrap UCL	2.9
кольных чиным чиных чиле», чиничиниковычиным чиним в видочениния в видочения в		BCA Bootstrap UCL	2.88
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	3.974442
		97.5% Chebyshev (Mean, Sd) UCL	4.681666
		99% Chebyshev (Mean, Sd) UCL	6.070871
When the real management and property and the second and the secon			0.0700

[m., my. [m.)			
Data File   C:\Documents and Se	ttings∖Admin	istrator\De Variable: VOCs in Groundwate	r Samples
cis-1,2-dichloroethene	V lead or before the same and an analysis of the same and an and an analysis of the same and an analysis of the sa		isis piri i-i lirin irakarakinasan mihani iraman
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	5	Shapiro-Wilk Test Statisitic	0.754302
Number of Unique Samples	3	Shapiro-Wilk 5% Critical Value	0.762
Minimum ug/L	0.5	Data not normal at 5% significance level	The second secon
Maximum ug/L	5.5		and an annual control of the state of
Mean	1.9	059/ LICL /Acquiring Normal Distribu	ıtion\
	···	95% UCL (Assuming Normal Distribu	
Median	0.5	Student's-t UCL	3.988774
Standard Deviation	2.19089		distribution and the second and second
Variance	4.8	Gamma Distribution Test	ar humanna ann an a
Coefficient of Variation	1.1531	A-D Test Statistic	0.695572
Skewness	1.530961	A-D 5% Critical Value	0.690616
		K-S Test Statistic	0.383993
Gamma Statistics	Service of Control of Charles Addition to the Principles Land	K-S 5% Critical Value	0.364009
k hat	1.07313	Data do not follow gamma distribution	
k star (bias corrected)	0.562585	at 5% significance level	
Theta hat	1.770522		the title the cities for the feeling tender and confession to account.
Theta star	3.377266	95% UCLs (Assuming Gamma Distribut	ion)
3 (100 000 (100 000 000 000 000 000 000 0			
nu hat	10.7313	Approximate Gamma UCL	7.365277
nu star	5.625852	Adjusted Gamma UCL	14.92609
Approx.Chi Square Value (.05)	1.451285	н наментольным инистиментичестичестичества потом отношения од 1940-1944 (1944-1944) Небарабора Георганичества от намен и поста од 1940-1944 (1944-1944) Небарабора Георганичества от намен и поста од 1940-1944 (1944-1944) Небарабора (1944-1944) Небарабор	recent on the party baselessy there is a rate of a state of a section of a
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	q ««».«.».».».«.«.».«.«.»»«.«.»»«.«.»
Adjusted Chi Square Value	0.716137	Shapiro-Wilk Test Statisitic	0.765986
	1	Shapiro-Wilk 5% Critical Value	0.762
Log-transformed Statistics		Data are lognormal at 5% significance lev	/el
Minimum of log data	-0.693147		
Maximum of log data	1.704748	95% UCLs (Assuming Lognormal Distr	ibution)
Mean of log data	0.108319	95% H-UCL	47.0805
Standard Deviation of log data	1.132304	95% Chebyshev (MVUE) UCL	5.533394
Variance of log data	1.282112	97.5% Chebyshev (MVUE) UCL	7.152119
Variation of log data	1 1,202112	99% Chebyshev (MVUE) UCL	10.33179
dan	eters and an annual and a server settled as a term of 1 1000		1 10.33178
Lond discounts are not not a contract and the contract an		OF9/ New party	and there are recorded as secure and or commercial conjugations on significant and part.
	to a country to control to the local	95% Non-parametric UCLs	0 54 4004
	<u> </u>	CLT UCL	3.511621
		Adj-CLT UCL (Adjusted for skewness)	4.228416
		Mod-t UCL (Adjusted for skewness)	4.100579
riger i cicilist ediciles educines testina a triaga l'Astinan mantazzana archines archines nel natural l'archines princi les educines de l'archines de l'arc		Jackknife UCL	3.988774
		Standard Bootstrap UCL	N/R
		Bootstrap-t UCL	N/R
RECOMMENDATION		Hall's Bootstrap UCL	N/R
Data are lognormal (0.05)	and the second section of the section of	Percentile Bootstrap UCL	N/R
		BCA Bootstrap UCL	N/R
Use 95% Chebyshev (MVUE)	LICI	95% Chebyshev (Mean, Sd) UCL	6.170831
Coe 50 /6 Ottebysitev (MVOE)	UVL	97.5% Chebyshev (Mean, Sd) UCL	8.018823
And the American Personal and the States for the state and are found and the states of		**************************************	mining on bank an bent der verbille between bei ben
		99% Chebyshev (Mean, Sd) UCL	11.64885
Recommended UCL exceeds the	maximum o	oservation	

Data File C:\Documents and Se	ettinas\Admini	strator\De: Variable: VOCs in Groundwate	r Samples
Cymene C. Dodaments and Co	l I	Strator (BC, Variable, VCCo III Groundwate	i Gampico
Raw Statistics	le 1011-10-10-1 describende en en de comment en de comment en de comment en de comment en en en en en en en en	Normal Distribution Test	icide al Interdetto two-clades to tel act or tel advert outsize
Number of Valid Samples	5	Shapiro-Wilk Test Statisitic	0.905289
Number of Unique Samples	4	Shapiro-Wilk 5% Critical Value	0.000200
	~ <del>}~~~~</del>	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	0.702
Minimum ug/L	1.4	Data are normal at 5% significance level	mandel expresses to artisated reliables to this collider is the
Maximum   ug/L	4.1	OCOVIDA INC.	.41 \
Mean	3.06	95% UCL (Assuming Normal Distribu	
Median	3.2	Student's-t UCL	4.152454
Standard Deviation	1.145862		bells on all more served and assessment on broader a commercial
Variance	1.313	Gamma Distribution Test	<del></del>
Coefficient of Variation	0.374465	A-D Test Statistic	0.379241
Skewness	-0.691651	A-D 5% Critical Value	0.679897
		K-S Test Statistic	0.228375
Gamma Statistics		K-S 5% Critical Value	0.35799
k hat	7.221025	Data follow gamma distribution	
k star (bias corrected)	3.021743	at 5% significance level	
Theta hat	0.423763		
Theta star	1.01266	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	72.21025	Approximate Gamma UCL	4.954791
nu star	30.21743	Adjusted Gamma UCL	6.233127
Approx.Chi Square Value (.05)	18.66181	Adjusted damma ool	_ O.EOO IET
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	
	14.8345		0.867957
Adjusted Chi Square Value	14.0345	Shapiro-Wilk Test Statisitic	
l transferred Chatlatian		Shapiro-Wilk 5% Critical Value	0.762
Log-transformed Statistics	0.000470	Data are lognormal at 5% significance lev	(G)
Minimum of log data	0.336472		.:1
Maximum of log data	1.410987	95% UCLs (Assuming Lognormal Distr	
Mean of log data	1.047578	95% H-UCL	5.874238
Standard Deviation of log data	0.447325	95% Chebyshev (MVUE) UCL	5.756066
Variance of log data	0.200099	97.5% Chebyshev (MVUE) UCL	6.911804
Middle control of the		99% Chebyshev (MVUE) UCL	9.182028
			inium veetata nykeettä täätä tuotainii taa tokaaniika keettiini
	name patterning the testining testining the resemble titles for	95% Non-parametric UCLs	1
		CLT UCL	3.902897
	1	Adj-CLT UCL (Adjusted for skewness)	3.73353
		Mod-t UCL (Adjusted for skewness)	4.126036
-theo-ductories in 19-19-19-19 in 19-20 de 19-20		Jackknife UCL	4.152454
		Standard Bootstrap UCL	N/R
		Bootstrap-t UCL	N/R
RECOMMENDATION		Hall's Bootstrap UCL	N/R
Data are normal (0.05)		Percentile Bootstrap UCL	N/R
ания и разви у развримара и плавам плава прави плава и плава и плава и плава и плава и плава и Алавия плава и А	- Annual Control	BCA Bootstrap UCL	N/R
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	5.293696
and in announced the control of the	and the laster orders are after the former of the mobility to the	97.5% Chebyshev (Mean, Sd) UCL	6.260219
was no solven among the or no ray colors and the desired that the desired that the desired the desired that the desired that the desired that the desired the desired that the d		99% Chebyshev (Mean, Sd) UCL	8.158765
Recommended UCL exceeds the			COLUMN TO THE PARTY OF THE PART
CONTRACTOR OF THE COURTS THE	,, (1350525(113,8131 ½);	eyraz w.r. a specific I (	.1

Data File C:\Documents and Se	ettings\Admini	strator\De Variable: VOCs in Groundwate	r Samples
Ethylbenzene	-		ist a limit time to the state of the state of
Raw Statistics		Normal Distribution Test	2 502400
Number of Valid Samples	5	Shapiro-Wilk Test Statisitic	0.632162
Number of Unique Samples	4	Shapiro-Wilk 5% Critical Value	0,762
Minimum ug/L	0.5	Data not normal at 5% significance level	
Maximum ug/L	21		
Mean	5.2	95% UCL (Assuming Normal Distribu	
Median	1.5	Student's-t UCL	13.65781
Standard Deviation	8.871302		a minura minasinindamindarieratierat
Variance	78.7	Gamma Distribution Test	
Coefficient of Variation	1.70602	A-D Test Statistic	0.59794
Skewness	2.188055	A-D 5% Critical Value	0.706454
мет жини метиматурага жетти пукта кумпимамам пирементина устана жетина.	NAME OF THE OWNER O	K-S Test Statistic	0.318271
Gamma Statistics		K-S 5% Critical Value	0.369865
k hat	0.58863	Data follow gamma distribution	
k star (bias corrected)	0.368785	at 5% significance level	
Theta hat	8.834077		
Theta star	14.10035	95% UCLs (Assuming Gamma Distribut	tion)
nu hat	5.886297	Approximate Gamma UCL	31.84739
nu star	3.687852	Adjusted Gamma UCL	80.40219
Approx.Chi Square Value (.05)	0.602148		
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	
Adjusted Chi Square Value	0.238511	Shapiro-Wilk Test Statisitic	0.872362
and such that is a common such that the contract of the contra	ALL PROPERTY LANGUE LANGUE LANGUE LANGUE LA LA	Shapiro-Wilk 5% Critical Value	0.762
Log-transformed Statistics		Data are lognormal at 5% significance le	vel
Minimum of log data	-0.693147	а хоник минаменто охинивали в <del>од</del> иномина менто инканизация у под доста до на доста од на доста од на доста од на	
Maximum of log data	3.044522	95% UCLs (Assuming Lognormal Dist	ribution)
Mean of log data	0.595997	95% H-UCL	1608.166
Standard Deviation of log data	1.537689	95% Chebyshev (MVUE) UCL	15.34618
Variance of log data	2.364488	97.5% Chebyshev (MVUE) UCL	20.18371
AN ARTERIATURAN WAS IN MINISTER WAS INTO THE WAS IN A STATE OF THE WAS INTO THE WAS		99% Chebyshev (MVUE) UCL	29.68609
and a southern the continuence of the continuence o		95% Non-parametric UCLs	
- market same and a second		CLT UCL	11.72574
		Adj-CLT UCL (Adjusted for skewness)	15.8739
		Mod-t UCL (Adjusted for skewness)	14.30484
announcement on the state of th		Jackknife UCL	13.65781
	and decide after the state of a s	Standard Bootstrap UCL	N/R
	1	Bootstrap-t UCL	N/R
RECOMMENDATION		Hall's Bootstrap UCL	N/R
Data follow gamma distribution	on (0.05)	Percentile Bootstrap UCL	N/R
	m a le da la	BCA Bootstrap UCL	N/R
Use Approximate Gamma UC	<u> </u>	95% Chebyshev (Mean, Sd) UCL	22.49335
AND ADDIOMINE OF THE OWNER OWNER OF THE OWNER OWNER OF THE OWNER	(	97.5% Chebyshev (Mean, Sd) UCL	29.9762
WINDOW, MICHAEL MATERIAL MATERIA		99% Chebyshev (Mean, Sd) UCL	44.6748
Recommended UCL exceeds the	a mayimum al	A DATE OF THE PARTY OF THE PROPERTY OF THE PROPERTY OF THE PARTY OF TH	77.0179

Data File C:\Documents and Se	ttings\Admini	strator\De Variable: VOCs in Groundwate	r Samples
Isopropylbenzene	ļļ.		ve mile.iinikiin n minisinia
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	5	Shapiro-Wilk Test Statisitic	0.92330
Number of Unique Samples	5	Shapiro-Wilk 5% Critical Value	0.762
Minimum ug/L	1,9	Data are normal at 5% significance level	ar fanish in militari bernine
Maximum ug/L	150		
Mean	79.18	95% UCL (Assuming Normal Distribu	
Median	83	Student's-t UCL	129,3265
Standard Deviation	52.59812		DISCONDING OF STREET STREET
Variance	2766.562	Gamma Distribution Test	
Coefficient of Variation	0.664285	A-D Test Statistic	0.785127
Skewness	-0.30362	A-D 5% Critical Value	0.692403
		K-S Test Statistic	0.415148
Gamma Statistics		K-S 5% Critical Value	0.364758
k het	0.961557	Data do not follow gamma distribution	
k star (bias corrected)	0.517956	at 5% significance level	
Theta hat	82.34561		
Theta star	152.8701	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	9.615571	Approximate Gamma UCL	331.9113
nu star	5.179562	Adjusted Gamma UCL	701.9856
Approx.Chi Square Value (.05)	1,235624		
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	
Adjusted Chi Square Value	0.584225	Shapiro-Wilk Test Statisitic	0.689104
1900 mm m	Secretary and the second secon	Shapiro-Wilk 5% Critical Value	0.762
Log-transformed Statistics		Data not lognormal at 5% significance lev	
Minimum of log data	0.641854	ши <u>ры минискания каминикаминиканда изго</u> рияная анторительная каже по од <u>е</u> до одраго авта в польства в польства в	
Maximum of log data	5.010635	95% UCLs (Assuming Lognormal Distr	ibution)
Mean of log data	3.768633	95% H-UCL	329029.7
Standard Deviation of log data	1.768724	95% Chebyshev (MVUE) UCL	498.1905
Variance of log data	3.128383	97.5% Chebyshev (MVUE) UCL	659.4538
		99% Chebyshev (MVUE) UCL	976.2242
		त्यामा कर्मा विकास क्षेत्र काम क्षेत्र कर्मा कर्मा स्थापन	a himie iume in a einiaium.
		95% Non-parametric UCLs	de anno de alemana de anterior
	- Surrense and trees adjustment entitles of furth	CLT UCL	117.8712
		Adj-CLT UCL (Adjusted for skewness)	114.4584
		Mod-t UCL (Adjusted for skewness)	128,7942
May the minimal of the minimal dependence of particular properties of the minimal control o		Jackknife UCL	129.3269
	The street to this later with an extraorable way	Standard Bootstrap UCL	113.8087
AND THE RESIDENCE OF THE PROPERTY OF THE PROPE	*	Bootstrap-t UCL	117.029
RECOMMENDATION	s. di. maranmas amaris sens paraminen	Hall's Bootstrap UCL	118.4894
Data are normal (0.05)		Percentile Bootstrap UCL	111.6
544 419 110111141 (0100)		BCA Bootstrap UCL	108.8
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	181.7126
COS ORIGENTO-LOOL		97.5% Chebyshev (Mean, Sd) UCL	226.0785
) =		99% Chebyshev (Mean, Sd) UCL	313.2268
	-	95/6 Chebyshev (Meath, Su) UCL	313.2200

Data File C:\Documents and Se	ettings\Admini	strator\De Variable: VOCs in Groundwate	r Samples
MTBE			Andrew Manager - 1-1-1-1-1-1 Andrew Lands
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	4	Shapiro-Wilk Test Statisitic	0.818999
Number of Unique Samples	4	Shapiro-Wilk 5% Critical Value	0.748
Minimum ug/L	1.9	Data are normal at 5% significance level	
Maximum ug/L	8.9		
Mean	4.325	95% UCL (Assuming Normal Distribu	ution)
Median	3.25	Student's-t UCL	7.99903
Standard Deviation	3.122366		terrangly for fermion or or other models of the second
Variance	9.749167	Gamma Distribution Test	to a to the desire in the substitution in terms of the substitution in the substitutio
Coefficient of Variation	0.721934	A-D Test Statistic	0.386492
Skewness	1.721598	A-D 5% Critical Value	0.659354
	······································	K-S Test Statistic	0.316227
Gamma Statistics	er and tree and tree lands and tree and	K-S 5% Critical Value	0.396518
k hat	3,10494	Data follow gamma distribution	CONTRACTOR
k star (bias corrected)	0.942902	at 5% significance level	and the second s
Theta hat	1.392942		
Theta star	4.586905	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	24.83952	Approximate Gamma UCL	13.19333
nu star	7.543213	Adjusted Gamma UCL	N/A
Approx.Chi Square Value (.05)	2.472794	Adjusted damma occ	
Adjusted Level of Significance	N/A	Lognormal Distribution Test	n na salah lan ami sali dali dali dali di Fri beliah deliber salimen merena
Adjusted Chi Square Value	N/A	Shapiro-Wilk Test Statisitic	0.937106
The state of the s		Shapiro-Wilk 5% Critical Value	0.748
Log-transformed Statistics		Data are lognormal at 5% significance lev	
Minimum of log data	0.641854	and the state of t	
Maximum of log data	2.186051	95% UCLs (Assuming Lognormal Distr	ribution)
Mean of log data	1.29482	95% H-UCL	41.8049
Standard Deviation of log data	0.648312	95% Chebyshev (MVUE) UCL	10.07746
Variance of log data	0.420308	97.5% Chebyshev (MVUE) UCL	12.59749
The state of the s	1 0.720000	99% Chebyshev (MVUE) UCL	17.54759
naandunasi oraa suu massuu massuu massuu massuu massuu massaja ja ke ju ja sa ja ja kapi yyyysyn ja kaysyk		The second secon	1 17.01700
And former for the field of the field of the feeth of the Andrews of the Comments of the Comme		95% Non-parametric UCLs	opinati v vadnimiskot i tatna 0 toko istoka We <del>lan Inc</del> otoka
ann mannar mann mann mann mann mann mann		CLT UCL	6.892917
		Adj-CLT UCL (Adjusted for skewness)	8.328856
		Mod-t UCL (Adjusted for skewness)	8.223008
The second secon		Jackknife UCL	7.99903
		Standard Bootstrap UCL	N/R
**************************************		Bootstrap-t UCL	N/R
RECOMMENDATION	***************************************	Hall's Bootstrap UCL	N/R
		Percentile Bootstrap UCL	N/R
I Data are normal (0.05)		. C. Collino Doctor Doctor	
Data are normal (0.05)		BCA Bootstrap UCI	N/R
		BCA Bootstrap UCL 95% Chebyshey (Mean, Sd) UCI	N/R 11 13004
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	11.13004
			terminal parameter de marchinal de la company de la compan

ettings\Adminis	strator\De(Variable: VOCs in Groundwate	r Samples
wite in editorization and the interest der	ndiver naturation and the widelite delites with weak to a filt in a delite manute disassements on an internation and a minima an international states of the second states of the	normanicolorie di 40% A0% A0%
5	Shapiro-Wilk Test Statisitic	0.826411
5	Shapiro-Wilk 5% Critical Value	0.762
1.6	Data are normal at 5% significance level	
47		
23.02	95% UCL (Assuming Normal Distribu	ution)
16		44.09299
22.10321		
the sub-reminer of more widow will be	Gamma Distribution Test	
		0.36819
and anne or ar unconstitute or more ashere.	NICH NAMES AND STREET AND ADDRESS AND ADDR	0.694162
1 0,002,000		0.259351
umelanicie anno e a novaco e e inc	ninum simum seminis munis unm minum minum simum simum ninut minum ninut minut minut film nint film film film f	0.365333
1 0 907004		0.00000
were in drope and despendences and problem		Annua annua annua annua annua ann
	at 576 Significance level	·····
the state of the s	A SOLO LI LO LA	
marketine marketine and a second and	AND THE PROPERTY OF THE PROPER	101.472
	Adjusted Gamma UCL	220.440
er aprocessioners commencement of the	ния в применения в	cidint-remaind actains as areas as in the
- American minimum and a series of the serie		
0.514299	Shapiro-Wilk Test Statisitic	0.89824
	Shapiro-Wilk 5% Critical Value	0.762
	Data are lognormal at 5% significance lev	vel
0.470004		
3.850148	95% UCLs (Assuming Lognormal Distr	ribution)
2.485092	95% H-UCL	6575.066
1.481058	95% Chebyshev (MVUE) UCL	94.16628
		123.6162
	99% Chebyshev (MVUE) UCL	181.46
	95% Non-parametric UCLs	
WINDOWS OF THE REAL PROPERTY OF THE PROPERTY O	CLT UCL	39,27914
-		40.99218
Carlos IIII marana a	TO STORE THE PROPERTY OF THE P	44.3601
		44.0929
	r is at this string with successful and an entire string of the successful reading reading and the contract of	37.8184
		67.7461
		61.9553
		38.
		38.
May rule a moter in stellar in the last	d Stidtig Mide bridge Widdliff alleft of Materia allegans the effective a trace at the manufacture of an analysis and a second s	66.1070
		1 97 7EUU.
	97.5% Chebyshev (Mean, Sd) UCL 99% Chebyshev (Mean, Sd) UCL	84.75091 121.3731
	5 1.6 47 23.02 16 22.10321 488.552 0.960174 0.362655 0.897904 0.492495 25.63749 46.7416 8.979038 4.924949 1.117276 0.0086 0.514299 0.470004 3.850148	5 Shapiro-Wilk 5% Critical Value 1.6 Data are normal at 5% significance level 47 23.02 95% UCL (Assuming Normal Distribution 16 Student's-t UCL 22.10321 488.552 Gamma Distribution Test 0.960174 A-D Test Statistic K-S 5% Critical Value K-S Test Statistic K-S 5% Critical Value 0.897904 Data follow gamma distribution 0.492495 at 5% significance level 25.63749 46.7416 95% UCLs (Assuming Gamma Distribution 8.979038 Approximate Gamma UCL 4.924949 Adjusted Gamma UCL 1.117276 0.0086 Lognormal Distribution Test 0.514299 Shapiro-Wilk Test Statisitic Shapiro-Wilk 5% Critical Value Data are lognormal at 5% significance level 0.470004 3.850148 95% UCLs (Assuming Lognormal Distribution Test 2.485092 95% H-UCL 1.481058 95% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL Standard Bootstrap UCL Bootstrap-t UCL Hall's Bootstrap UCL BCA Bootstrap UCL

Data File C:\Documents and Se o-Xylene	eturiys (Auriii iii	strator\De Variable: VOCs in Groundwate	Janpies
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	5	Shapiro-Wilk Test Statisitic	0.698863
Number of Unique Samples	3	Shapiro-Wilk 5% Critical Value	0.762
Minimum  ug/L	0.5	Data not normal at 5% significance level	
Maximum ug/L	2.6		and a municipality and a managery
Mean	1.32	95% UCL (Assuming Normal Distribu	ution)
Median	0.5	Student's-t UCL	2.391027
Standard Deviation	1.123388		1
Variance	1.262	Gamma Distribution Test	
Coefficient of Variation	0.851051	A-D Test Statistic	0.91909
Skewness	0.613099	A-D 5% Critical Value	0.68555
	1 0.010033	K-S Test Statistic	0.39466
Gamma Statistics	indemialinum midemalise aidķiecido ultr	K-S 5% Critical Value	0.36115
k hat	1.714377	Data do not follow gamma distribution	1 0.001100
k star (bias corrected)	0.819084	at 5% significance level	A
Theta hat		at 576 significance level	
	0.769959	OES/ LICE a (Assuming Commo Distribut	Han'
Theta star	1.611556	95% UCLs (Assuming Gamma Distribut	
nu hat 	17.14377	Approximate Gamma UCL	3.79988
nu star	8.19084	Adjusted Gamma UCL	6.51493
Approx.Chi Square Value (.05)	2.845328	The State of the Section of the design of the design of the section of the sectio	CALCIUM CURA CUE TO THE COLUMN
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	
Adjusted Chi Square Value	1.659558	Shapiro-Wilk Test Statisitic	0.69142
		Shapiro-Wilk 5% Critical Value	0.76
Log-transformed Statistics		Data not lognormal at 5% significance lev	/el
Minimum of log data	-0.693147		
Maximum of log data	0.955511	95% UCLs (Assuming Lognormal Dist	
Mean of log data	-0.041528	95% H-UCL	10.3839
Standard Deviation of log data	0.892374	95% Chebyshev (MVUE) UCL	3.4864
Variance of log data	0.796332	97.5% Chebyshev (MVUE) UCL	4.432938
WATER WEST CONTROL OF WHICH STORES AND THE STORES A		99% Chebyshev (MVUE) UCL	6.29209
		95% Non-parametric UCLs	
		CLT UCL	2.14636
		Adj-CLT UCL (Adjusted for skewness)	2.29355
		Mod-t UCL (Adjusted for skewness)	2.41398
		Jackknife UCL	2.39102
		Standard Bootstrap UCL	N/R
PARTIE PA		Bootstrap-t UCL	N/R
RECOMMENDATION		Hall's Bootstrap UCL	N/R
Data are Non-parametric (	0.05)	Percentile Bootstrap UCL	N/R
क्षणाताम् वाकामानामार्गे केर्ना विकास विकास केर्ना मान्य विकास केर्ना विकास विकास विकास विकास विकास विकास विकास	the similar is some substituted as the	BCA Bootstrap UCL	N/R
Use 95% Chebyshev (Mean,	Sd) UCL	95% Chebyshev (Mean, Sd) UCL	3.50988
manner de la company de la	manyage dama ya ya ya ma wa ma ma ya ma ya ma	97.5% Chebyshev (Mean, Sd) UCL	4.45745
and and the state of the state and the state of the state		99% Chebyshev (Mean, Sd) UCL	6.31876
Recommended UCL exceeds the	a tradicional inva est		

Data File C:\Documents and Se	ettings\Admini	strator\De Variable: VOCs in Groundwate	r Samples
n-Propylbenzene		III AA MININA AA MAA AA A	
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	5	Shapiro-Wilk Test Statisitic	0.78365
Number of Unique Samples	5	Shapiro-Wilk 5% Critical Value	0.762
Minimum ug/L	0.5	Data are normal at 5% significance level	
Maximum ug/L	72		
Mean	22.78	95% UCL (Assuming Normal Distribu	ition)
Median	10	Student's-t UCL	50.0058
Standard Deviation	28.55682		
Variance	815.492	Gamma Distribution Test	
Coefficient of Variation	1.253592	A-D Test Statistic	0.262755
Skewness	1.855364	A-D 5% Critical Value	0.701464
		K-S Test Statistic	0.215076
Gamma Statistics	odli - im od Allion Aldrine rom i na natima piana	K-S 5% Critical Value	0.367922
k hat	0.686786	Data follow gamma distribution	
k star (bias corrected)	0.408048	at 5% significance level	* 0 110 m m m m m m m m m 110 * 16
Theta hat	33.16898		
Theta star	55.82679	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	6.867863	Approximate Gamma UCL	123.3705
nu star	4.080478	Adjusted Gamma UCL	296.4451
Approx.Chi Square Value (.05)	0.753448		
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	
Adjusted Chi Square Value	0.31356	Shapiro-Wilk Test Statisitic	0.913012
1	3.01000	Shapiro-Wilk 5% Critical Value	0.762
Log-transformed Statistics	······································	Data are lognormal at 5% significance lev	anni <mark>dee</mark> ann ann an an deal an an Iolain an Aireann a
Minimum of log data	-0.693147	A COLOMBO CONTROL OF CONTROL AND	
Maximum of log data	4.276666	95% UCLs (Assuming Lognormal Distr	ibution)
Mean of log data	2.243571	95% H-UCL	141205.3
Standard Deviation of log data	1.835721	95% Chebyshev (MVUE) UCL	118.5895
Variance of log data	3.369872	97.5% Chebyshev (MVUE) UCL	157.2184
Valiable of log data	0.009072	99% Chebyshev (MVUE) UCL	233.0974
ש מונים ומידים לא מידים מונים לא מונים לא מידים ביום (באינונים לא מידים ביום מידים ביום מונים לא מידים או מידים מידים מידים מי	***************************************	A3 /8 OHED A3HEA (MALACE TO A CONTROL AND A	
en e		95% Non-parametric UCLs	
ь основы (жықты же меннеде основе основе основа меннеде основа меннеде основа о	and the second of the second o	CLT UCL	43.78642
		Adj-CLT UCL (Adjusted for skewness)	55.1091
		Mod-t UCL (Adjusted for skewness)	51.77191
		Jackknife UCL	50.0058
		Standard Bootstrap UCL	41.2871
		Bootstrap-t UCL	122.0168
	and a section of the faithfurnment from the same	A PROPERTY IN THE WASHINGTON AND AND AND AND AND ADDRESS OF THE PROPERTY OF TH	d'in of rithman hunna imbrant and sure
RECOMMENDATION		Hall's Bootstrap UCL	170.2002
Data are normal (0.05)	calunie annitate annitate anni	Percentile Bootstrap UCL	45.3
		BCA Bootstrap UCL	49.48
	i	95% Chebyshev (Mean, Sd) UCL	78.44749
Use Student's-t UCL	* 24 mm * 200 mm * 2	miner with the comment of the commen	400 000
Use Student's-t UCL	Sec. 24	97.5% Chebyshev (Mean, Sd) UCL 99% Chebyshev (Mean, Sd) UCL	102.5349 149.8498

Data File   C:\Documents and Se	ettings\Admini	strator\De Variable: VOCs in Groundwate	r Samples
tert-Butylbenzene			
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	5	Shapiro-Wilk Test Statisitic	0.693357
Number of Unique Samples	4	Shapiro-Wilk 5% Critical Value	0.762
Minimum lug/L	0.5	Data not normal at 5% significance level	
Maximum ug/L	9.4	anno anno anno anno anno anno anno anno	, I , , , , , , ,
Mean	2.78	95% UCL (Assuming Normal Distribu	ıtion)
Median	1.6	Student's-t UCL	6.359597
Standard Deviation	3.754597	Olddell 6-7 OOL	0.00000
Variance	14.097	Gamma Distribution Test	ikaidulaisianka araa ansara .
Coefficient of Variation	1.350575	A-D Test Statistic	0.504704
many many or accompany and the printing of the	The Control of the State of the	the process of programmers and the soul of the field of the best first of an extensive recent in an extensive recent in the second of the seco	0.693388
Skewness	2.078968	A-D 5% Critical Value	The second secon
The second secon	INSTITUTE IN A THE PERSON NAMED IN THE PERSON NAMED IN	K-S Test Statistic	0.294104
Gamma Statistics		K-S 5% Critical Value	0.36508
k hat	0.925892	Data follow gamma distribution	
k star (bias corrected)	0.50369	at 5% significance level	
Theta hat	3.002509	минентин маринентин интереструктин менентин жана жана жана жана жана жана жана жа	and the two of the second trips and the second the second
Theta star	5.519264	95% UCLs (Assuming Gamma Distribut	
nu hat	9.258924	Approximate Gamma UCL	11.9796
nu star	5.036903	Adjusted Gamma UCL	25.71417
Approx.Chi Square Value (.05)	1.16887	AND THE RESIDENCE OF THE PROPERTY OF THE PROPE	
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	
Adjusted Chi Square Value	0.544548	Shapiro-Wilk Test Statisitic	0.883684
TO THE PROPERTY OF THE PROPERT	a. Saule a sun a s	Shapiro-Wilk 5% Critical Value	0.762
Log-transformed Statistics		Data are lognormal at 5% significance lev	/el
Minimum of log data	-0.693147	พ.ก.ค.ศ. เปลี่ยน สถานายายายายายายายายายายายายายายายายายายา	
Maximum of log data	2.24071	95% UCLs (Assuming Lognormal Distr	ibution)
Mean of log data	0.393255	95% H-UCL	103.2917
Standard Deviation of log data	1.208441	95% Chebyshev (MVUE) UCL	8.126323
Variance of log data	1,46033	97.5% Chebyshev (MVUE) UCL	10.54643
and the second s		99% Chebyshev (MVUE) UCL	15.30026
нькимплектина жини жилаким раз поставоння жанна жанна	with the service with the service of the	a kidopikantika antika kalini sala sama antika mini antika mantika mini kantika antika antika mini mantika man	1 10.00020
		95% Non-parametric UCLs	entre, mana manana manana manana mortas menara re
The state of the s		CLT UCL	5.541885
		Adj-CLT UCL (Adjusted for skewness)	7.209983
auna aun manine a altinir aunina aun e minim aun in a manina aun manina aun manina aun manina aun manina aun m		Mod-t UCL (Adjusted for skewness)	6.619787
THE PARTY OF THE P		Jackknife UCL	6.359597
and the let will be a second as a second a		Standard Bootstrap UCL	N/R
		Bootstrap-t UCL	N/R
		ted to be to the best of the b	N/R
RECOMMENDATION	(0.05)	Hall's Bootstrap UCL	
Data follow gamma distributi	011 (0.05)	Percentile Bootstrap UCL	N/R
	21	BCA Bootstrap UCL	N/R
Use Approximate Gamma U0	<u> </u>	95% Chebyshev (Mean, Sd) ÚCL	10.09906
		97.5% Chebyshev (Mean, Sd) UCL	13.26602
	Au-manuscre augustasium municipalisi	99% Chebyshev (Mean, Sd) UCL	19.4869
Recommended UCL exceeds th	e maximum ol	pservation	

ttings\Adminis	strator\De Variable: VOCs in Groundwate	r Samples
-		
		0.711961
A STATE OF THE PARTY OF THE PAR		0.762
** * **** * * * * * * * * * * * * * *	Data not normal at 5% significance level	
all grown of collect transactions of a literature leading to their		······································
nutrate alun ter wise menun be num ale un		
<del></del>	Student's-t UCL	2.438677
^	and the second s	elivinkamene alweak diskramennik
0.859992	A-D Test Statistic	0.897336
0,62573	A-D 5% Critical Value	0.685699
	K-S Test Statistic	0.394573
	K-S 5% Critical Value	0.361243
1.67802	Data do not follow gamma distribution	A
0.804541	at 5% significance level	
0.79856		
1.665545	95% UCLs (Assuming Gamma Distribut	ion)
16.7802		3.905171
		6.741958
	Lognormal Distribution Test	
<del></del>		0.69825
1	A. L.	0.762
-0 693147	erlainalata ae Wijeste belitat di Berk de Pari, isologo par oper oper de proper de la samma de Maria anno e come una commence de	
	95% UCLs (Assuming Lognormal Dist	ribution)
Contract and the American Contract and the A	STORY STATE A STATE AS A STATE OF THE STATE	11.03768
· · · · · · · · · · · · · · · · · · ·		3.561787
	~ 11   12   12   13   14   15   15   15   15   15   15   15	4.532646
0.010401	99% Chebyshev (MVUE) UCL	6.439709
	95% Non-parametric UCLs	
	STATE	2.187698
-		2.341796
		2.462713
	STEED OF THE PROPERTY OF THE P	2.438677
		N/R
1	AND	N/R
1	- will print in the interest of the interest o	N/R
1051		N/R
1,00)		N/R
04) 1101		was been a proportion of the state of the st
Sa) UCL		3.586419
	97.5% Chebyshev (Mean, Sd) UCL	4.558447
	99% Chebyshev (Mean, Sd) UCL	6.467807
	5 3 0.5 2.7 1.34 0.5 1.152389 1.328 0.859992 0.62573 1.67802 0.804541 0.79856 1.665545	3 Shapiro-Wilk 5% Critical Value 0.5 Data not normal at 5% significance level 2.7 1.34 95% UCL (Assuming Normal Distribut 0.5 Student's-t UCL 1.152389 1.328 Gamma Distribution Test 0.859992 A-D Test Statistic 0.62573 A-D 5% Critical Value K-S 7est Statistic K-S 5% Critical Value 1.67802 Data do not follow gamma distribution 0.804541 at 5% significance level 0.79856 1.665545 95% UCLs (Assuming Gamma Distribut 16.7802 Approximate Gamma UCL 8.045413 Adjusted Gamma UCL 2.760661 0.0086 Lognormal Distribution Test 1.599069 Shapiro-Wilk Test Statisitic Shapiro-Wilk 5% Critical Value Data not lognormal at 5% significance level -0.693147 0.993252 95% UCLs (Assuming Lognormal Distribution Test -0.03398 95% H-UCL 0.903012 95% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL Standard Bootstrap UCL Bootstrap-1 UCL Hall's Bootstrap UCL BCA Bootstrap UCL BCA Bootstrap UCL BCA Bcotstrap UCL

Data File C:\Documents and Se	ettings\Admin	istrator\De Variable: VOCs in Groundwate	r Samples
trans-1,2-dichloroethene			
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	5	Shapiro-Wilk Test Statisitic	0.759983
Number of Unique Samples	3	Shapiro-Wilk 5% Critical Value	0.762
Minimum ug/L	0.5	Data not normal at 5% significance level	
Maximum ug/L	5.2	и рожни почин вости рож иновидиования вы не завил востивостивости востобот не <b>до</b> почени нев и пичен приврич	
Mean	1.84	95% UCL (Assuming Normal Distribu	ution)
Median	0.5	Student's-t UCL	3.811929
Standard Deviation	2.068333		na (nasilitina) (1.00 (1
Variance	4.278	Gamma Distribution Test	PRIBATE METATOR OF LEASE AND ASSESSMENT OF THE RESIDENCE OF THE PRISON O
Coefficient of Variation	1.124094	A-D Test Statistic	0.700038
Skewness	1.459892	A-D 5% Critical Value	0.690228
And the state of t		K-S Test Statistic	0.385158
Gamma Statistics	objected relatives and an arrangement of the second	K-S 5% Critical Value	0.363794
lk hat	1.11236	Data do not follow gamma distribution	
k star (bias corrected)	0.578277	at 5% significance level	pan menaran an ara arawan manashidi =00-adhiddinidi bi=00
Theta hat	1.654141		paga paga paga paga paga paga paga paga
Theta star	3.181864	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	11.1236	Approximate Gamma UCL	6.957154
nu star	5.782773	Adjusted Gamma UCL	13.90575
Approx.Chi Square Value (.05)	1.529405	7.0,00.00	
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	n mem in mem ieru iseren ist resem leis i in lit i leid
Adjusted Chi Square Value	0.765173	Shapiro-Wilk Test Statisitic	0.763739
	1 01/001/01	Shapiro-Wilk 5% Critical Value	0.762
Log-transformed Statistics		Data are lognormal at 5% significance le	
Minimum of log data	-0.693147		d foliar for reference for the foliar forms and the second
Maximum of log data	1.648659	95% UCLs (Assuming Lognormal Dist	ribution)
Mean of log data	0.097102	95% H-UCL	41.13074
Standard Deviation of log data	1.112641	95% Chebyshev (MVUE) UCL	5.33323
Variance of log data	1.23797	97.5% Chebyshev (MVUE) UCL	6.885626
		99% Chebyshev (MVUE) UCL	9.935006
		and the second s	-11-5 1-116-6911
Control control control control description of the control con	1	95% Non-parametric UCLs	
- In the Mint of Debug and Albert and the interior and the convention of the convent		CLT UCL	3.361467
of the world News (1984 of New	<u> </u>	Adj-CLT UCL (Adjusted for skewness)	4.006752
		Mod-t UCL (Adjusted for skewness)	3.91258
	***************************************	Jackknife UCL	3.811929
de affecte as 1940 (\$1000 to be 1940) a few (a mental a minura as even a meneroles as demonstrativos arterioras and a mental as a mental a		Standard Bootstrap UCL	N/R
**************************************		Bootstrap-t UCL	N/R
RECOMMENDATION		Hall's Bootstrap UCL	N/R
Data are lognormal (0.05)		Percentile Bootstrap UCL	N/R
and the property of the second	de Server I to Ball 10 I for leading a standard and described as	BCA Bootstrap UCL	N/R
Use 95% Chebyshev (MVUE)	UCI	95% Chebyshev (Mean, Sd) UCL	5.871923
COS CO/S OTTODYSTICV (W/VOL)		97.5% Chebyshev (Mean, Sd) UCL	7.616539
The state of the s	***************************************	99% Chebyshev (Mean, Sd) UCL	11.0435
Recommended UCL exceeds the	l		11.0700
Freezoninientora AAF avoaada int	Z LIBOANISTURI O	DOG: VOCO: 1	

ttings\Admini	strator\De Variable: VOCs in Groundwate	r Samples
†		0.754302
		0.762
***************************************	Data not normal at 5% significance level	1
Commence of the second second		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
d.m.:==::::=============================		
<del></del>	Student's-t UCL	1.89551
0.876356	ингтення манкульных мінух мілихів пихівних мініх мініх мініх мініх мінійх чінійх чінійх мініх мінійх мініх мін	Koose was an action of the contract
0.768	Gamma Distribution Test	
0.826751	A-D Test Statistic	0.692325
1.530961	A-D 5% Critical Value	0.683996
	K-S Test Statistic	0.378404
	K-S 5% Critical Value	0.360208
2.249624	Data do not follow gamma distribution	THE RESIDENCE OF STREET
1.033183	at 5% significance level	
0.47119		
1.025956	95% UCLs (Assuming Gamma Distribut	ion)
22.49624		2.639391
10.33183	a with a resident with the extremental manifest of the second contract of the second contra	4.172968
Anna commence and an arrange and		erreditarios, acuto appartura aprillos (as agrane
of Howard comments to be and the second of the Wa	Lognormal Distribution Test	amended and commentative and
· · · · · · · · · · · · · · · · · · ·		0.772806
		0.762
T		
-0.693147	unimmin minusi munusimminin minum munumminum menisikista hannum minist tetata tetata tetata tetata tetata teta	dillion or intubutivation milk management
ing annual and annual and a training the state of the sta	95% LICLe /Assuming Lognormal Distr	ibution)
office in milk that the think of the bank of the bank		4.502595
**************************************	CONTRACTOR OF THE PROPERTY OF	2.487354
A		3.117241
1 0.040070		4.354533
	3376 OHEOVSHEV (NIVOL) COL	7.007000
T**********	06% Non parametric UCLs	······································
	Smither distriction of the Park Salle of the	1.704648
ļ	# PERSONAL PROPERTY OF THE PRO	and the state of t
	the state of the section of the sect	1.991366
<del> </del>		1.940232
		1.89551
		N/R
	the of delivers the delivers th	N/R
		N/R
en en men en bragen el color del tent estre tent telle en color de l'architecture de		N/R
		N/R
	To the state and a selection of a selection of the select	2.768333
	07 50/ Chahambar (Mann Cd) [IC]	3.507529
	97.5% Chebyshev (Mean, Sd) UCL 99% Chebyshev (Mean, Sd) UCL	4.959538
	5 3 0.5 2.5 1.06 0.5 0.876356 0.768 0.826751 1.530961 2.249624 1.033183 0.47119 1.025956	3 Shapiro-Wilk 5% Critical Value  0.5 Data not normal at 5% significance level  2.5  1.06 95% UCL (Assuming Normal Distribution 0.5 Student's-t UCL  0.876356 0.768 Gamma Distribution Test  0.826751 A-D Test Statistic 1.530961 A-D 5% Critical Value  K-S Test Statistic  K-S 5% Critical Value  2.249624 Data do not follow gamma distribution 1.033183 at 5% significance level  0.47119 1.025956 95% UCLs (Assuming Gamma Distribution 22.49624 Approximate Gamma UCL 10.33183 Adjusted Gamma UCL 4.149343 0.0086 Lognormal Distribution Test 2.624448 Shapiro-Wilk Test Statisitic Shapiro-Wilk 5% Critical Value  Data are lognormal at 5% significance level -0.693147 0.916291 95% UCLs (Assuming Lognormal Distribution 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

Data File   C:\Documents and Se	ettings\Admini	strator\De Variable: VOCs in Groundwate	r Samples
Vînyl chloride	un errecuna acumazo acumar annara com		
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	5	Shapiro-Wilk Test Statishic	0.889726
Number of Unique Samples	5	Shapiro-Wilk 5% Critical Value	0.762
Minimum ug/L	20	Data are normal at 5% significance level	
Maximum ug/L	69		
Mean	49.8	95% UCL (Assuming Normal Distribu	ution)
Median	53	Student's-t UCL	67.11132
Standard Deviation	18.15764		
Variance	329.7	Gamma Distribution Test	
Coefficient of Variation	0.364611	A-D Test Statistic	0.591803
Skewness	-1.320989	A-D 5% Critical Value	0.680103
		K-S Test Statistic	0.35564
Gamma Statistics		K-S 5% Critical Value	0.358071
k hat	6.657943	Data follow gamma distribution	
k star (bias corrected)	2.796511	at 5% significance level	COLONIA DE LA CARRACTE DEL CARRACTE DEL CARRACTE DE LA CARRACTE DE
Theta hat	7.479788	and the second s	and the state of t
Theta star	17.80791	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	66.57943	Approximate Gamma UCL	82.41107
nu star	27.96511	Adjusted Gamma UCL	104.8236
Approx.Chi Square Value (.05)	16.89897	/ Calabida Germina Gol	1 10 110200
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	AUDITE STATE OF STATE
Adjusted Chi Square Value	13.28577	Shapiro-Wilk Test Statisitic	0.78446
Adjusted Off Oquate Value	10.20077	Shapiro-Wilk 5% Critical Value	0.762
Log-transformed Statistics		Data are lognormal at 5% significance lev	with the settled or some several security and
Minimum of log data	2.995732		COLUMN AND AND AND AND AND AND AND AND AND AN
Maximum of log data	4.234107	95% UCLs (Assuming Lognormal Distr	ribution)
Mean of log data	3.831041	95% H-UCL	104.064
Standard Deviation of log data	0.482468	95% Chebyshev (MVUE) UCL	97.67331
Variance of log data	0.462406	97.5% Chebyshev (MVUE) UCL	118.0683
validice of log data	J V.232773	99% Chebyshev (MVUE) UCL	158.1302
	e minus eminus minus eminus eminus eminus	99% Chedysney (WVOE) OCL	1 100.1302
		95% Non-parametric UCLs	
194000 Start CAM A Floring of Act of the control of		CLT UCL	63.15678
		Adj-CLT UCL (Adjusted for skewness)	58.03089
		Mod-t UCL (Adjusted for skewness)	66.31179
<u> </u>		Jackknife UCL	67.11132
		Standard Bootstrap UCL	61.77628
		Bootstrap-t UCL	61.02133
RECOMMENDATION		Hall's Bootstrap UCL	58.93123
Data are normal (0.05)		Percentile Bootstrap UCL	60.2
	em indicate i series and transfer and series deposited builtings and reference	BCA Bootstrap UCL	58.6
Use Student's-t UCL		95% Chebyshev (Mean, Sd) UCL	85.19576
Use Student S-LUCL		A MUNICIPAL WALL WIRLY MANDE AND ACCOUNT AND ASSESSMENT ASSESSMENT OF A STATE	
		97.5% Chebyshev (Mean, Sd) UCL	100.5115
nije winne njemera se mensa (mirra vinjemena vinjemena konstantan kana se mensa se mensa se mensa se mensa se		99% Chebyshev (Mean, Sd) UCL	130,5964

Data File C:\Documents and Se	ttinas\Admin	istrator\De Variable: VOCs in Groundwate	r Samples
m,p-Xylenes		ottato (1/200 Variable). V 0 00 III ottoaniawate	1
Raw Statistics		Normal Distribution Test	The Hel-to-freehold about blocks search attaches
Number of Valid Samples	5	Shapiro-Wilk Test Statisitic	0.600314
Number of Unique Samples	3	Shapiro-Wilk 5% Critical Value	0.762
Minimum ug/L	0.5	Data not normal at 5% significance level	
Maximum lug/L	28	Data not not not make at 0/0 significant or 100 in	and an annual contract of the second
Mean	6.4	95% UCL (Assuming Normal Distribu	ıtion)
Median	0.5	Student's-t UCL	17.94154
Standard Deviation	12.10578	Student 3-1 OOL	117.04104
Variance	146.55	Gamma Distribution Test	adrono campo como casa con estado acestra a terro de casa con estado estado de terro de consecuencia de terro de
Coefficient of Variation	1.891529	A-D Test Statistic	0.833735
Skewness	2.208215	A-D 7est Glatistic  A-D 5% Critical Value	0.717527
	2.200213	K-S Test Statistic	0.717327
Commo Station		K-S 5% Critical Value	0.373551
Gamma Statistics k hat	0.453424	······································	
	0.453424	Data follow approximate gamma distibution	OII
k star (bias corrected)	. <del></del>	at 5% significance level	
Theta hat	14.11483	050/ LICLA / Assuming Company Distribut	:\
Theta star	20.33665	95% UCLs (Assuming Gamma Distribut	
nu hat	4.534238	Approximate Gamma UCL	48.29006
nu star	3.147028	Adjusted Gamma UCL	128.5422
Approx.Chi Square Value (.05)	0.417083		il lasko il lab orderan in svanin se si las interessi in i i
Adjusted Level of Significance	0.0086	Lognormal Distribution Test	1 0 75 (050
Adjusted Chi Square Value	0.156688	Shapiro-Wilk Test Statisitic	0.754259
	····	Shapiro-Wilk 5% Critical Value	0.762
Log-transformed Statistics	l l	Data not lognormal at 5% significance lev	/el
Minimum of log data	-0.693147		
Maximum of log data	3.332205	95% UCLs (Assuming Lognormal Distr	
Mean of log data	0.433811	95% H-UCL	11157.85
Standard Deviation of log data	1.763773	95% Chebyshev (MVUE) UCL	17.62888
Variance of log data	3.110894	97.5% Chebyshev (MVUE) UCL	23.33254
		99% Chebyshev (MVUE) UCL	34.53628
the complete desirable of the first order field concentrated produce of the concentration of		95% Non-parametric UCLs	ocanas voidi sacras represpilinenteros nelvili voldenos necesarendos
ndiseNeeklest (Abditeleile) (Albert elelli) beste elelli (Delelli) elekti (PPP) delekti esete desenaranni anatan a canton a canto		CLT UCL	15.30503
		Adj-CLT UCL (Adjusted for skewness)	21.01777
		Mod-t UCL (Adjusted for skewness)	18.83261
		Jackknife UCL	17.94154
tumbers consert bit core to 1984 to 1,000 to observe the torus of the local to color to color to the torus of the torus of the local to color to the torus of the torus of the local tor		Standard Bootstrap UCL	N/R
The first out of the fi		Bootstrap-t UCL	N/R
RECOMMENDATION		Hall's Bootstrap UCL	NR
I DECOMBENDATION			······································
ALEXANDER CONTRACTOR MATERIAL CONTRACTOR OF THE PROPERTY OF TH	n (0.05)	Percentile Bootstrap UCL	N/H
Assuming gamma distribution	n (0.05)	Percentile Bootstrap UCL BCA Bootstrap UCL	N/R N/R
Assuming gamma distribution	n (0.05)	BCA Bootstrap UCL	N/R
CONTRACTOR OF THE PROPERTY OF	n (0.05)	BCA Bootstrap UCL 95% Chebyshev (Mean, Sd) UCL	N/R 29.99852
Assuming gamma distribution	n (0.05)	BCA Bootstrap UCL	entertiğ i ben tantarlabastırınd aranınının terrestresennen ere re.

Data File   C:\Documents and Se	ttings\Admini	strator\De Variable: VOCs in Soil Samples	1 - 10 ft bg
1,1,2,2-Tetrachloroethane		ANIA WILE WILL A WILL A WARE A WILL A	
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	72	Lilliefors Test Statisitic	0.487847
Number of Unique Samples	15	Lilliefors 5% Critical Value	0.104416
Minimum ug/kg	1.85	Data not normal at 5% significance level	
Maximum lug/kg	285		***************************************
Mean	6.618056	95% UCL (Assuming Normal Distribu	
Median	2.5	Student's-t UCL	13.16455
Standard Deviation	33.33065		***************************************
Variance	1110.932	Gamma Distribution Test	
Coefficient of Variation	5.03632	A-D Test Statistic	23.62739
Skewness	8.438865	A-D 5% Critical Value	0.801303
		K-S Test Statistic	0.528551
Gamma Statistics		K-S 5% Critical Value	0.109931
k hat	0.662116	Data do not follow gamma distribution	
k star (bias corrected)	0.643788	at 5% significance level	
Theta hat	9.995305		
Theta star	10.27988	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	95.34477	Approximate Gamma UCL	8.581155
nu star	92.7054	Adjusted Gamma UCL	8.626924
Approx.Chi Square Value (.05)	71.49731	A CONTROL OF THE PARTY OF THE P	
Adjusted Level of Significance	0.046667	Lognormal Distribution Test	
Adjusted Chi Square Value	71.11799	Lilliefors Test Statisitic	0.463687
ann w Aiffinir Iwaniwin se anniwi alimin samilw waa i asan aha i a a a a a a a a a a a a a a a a a		Lilliefors 5% Critical Value	0.104416
Log-transformed Statistics	And Miles and the statement of the second section of the section of the second section of the section of the second section of the se	Data not lognormal at 5% significance lev	
Minimum of log data	0.615186	พระบุล พบบบละบุการสุดการสุดการสุดการสุดการสุดใหม่โดยที่ สุดที่ พฤษายุล เพื่อใหม่ใหม่ใหม่ใหม่ สูญสุดการ พระบาย พ	IIII ANI ANI ANI ANI ANI ANI ANI ANI ANI
Maximum of log data	5.652489	95% UCLs (Assuming Lognormal Distr	ibution)
Mean of log data	0.969863	95% H-UCL	3.76701
Standard Deviation of log data	0.64434	95% Chebyshev (MVUE) UCL	4.397977
Variance of log data	0.415173	97.5% Chebyshev (MVUE) UCL	4.901244
e manifestation de la contraction de la confidence de la	- Lander Lander Lander Lander Land	99% Chebyshev (MVUE) UCL	5.889814
wantal property for profession from the profession for an appropriate and the profession		๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛	a de mais periolem au benedica de
		95% Non-parametric UCLs	
THE PERSON OF A SHITTER SHEET AND A SHEET AND A SHEET AS A SHEET A	are plant in the before the All believe Middle believe in	CLT UCL	13.07913
AN TILLUM MICH. M.		Adj-CLT UCL (Adjusted for skewness)	17.25335
Proprietation   1   1   1   1   1   1   1   1   1		Mod-t UCL (Adjusted for skewness)	13.81564
		Jackknife UCL	13.16455
namentalisma in in interess in interess in interess in interess in the interest in the interes		Standard Bootstrap UCL	12.97216
E		Bootstrap-t UCL	139.6408
RECOMMENDATION		Hall's Bootstrap UCL	130.3429
Data are Non-parametric (0	0.05)	Percentile Bootstrap UCL	14.37778
		BCA Bootstrap UCL	22.10486
Use 95% Chebyshev (Mean,	Sd) UCL	95% Chebyshev (Mean, Sd) UCL	23.74005
The second secon		97.5% Chebyshev (Mean, Sd) UCL	31.14875
NAME AND ADDRESS OF THE PROPERTY OF THE PROPER	***************************************	99% Chebyshev (Mean, Sd) UCL	45.7017
NUMBER OF STREET OF STREET, ST	HAT THE RESERVE AND ADDRESS OF THE PARTY OF		121/21/

ttings\Admini	strator\De Variable: VOCs in Soil Samples	1 - 10 ft bg
72		0.487981
19	Lilliefors 5% Critical Value	0.104416
1.85	Data not normal at 5% significance level	THE PROPERTY OF THE PROPERTY O
285		
10.8	95% UCL (Assuming Normal Distribu	tion)
2.5	Student's-t UCL	18.68662
40.15373		
1612.322	Gamma Distribution Test	
3.717938	A-D Test Statistic	22.40331
5.640623	A-D 5% Critical Value	0.816724
	K-S Test Statistic	0.507688
	K-S 5% Critical Value	0.111125
0.504658		
a fun a transminim anni anni a anni a anni		
	THE REPORT OF THE PROPERTY OF	eran en como en
a provincia in a sum in a minor a imperi	95% UCLs (Assuming Gamma Distribut)	on)
		14.57962
properties and the same and a contract of the	"Your of divided of the first order of the first of the first of the first own in the first of the first of the first of the first own in the	14.6697
and the second s		
and ministration with the same of many and	Lognormal Distribution Test	nine al singen ikanan reas a — —
· · · · · · · · · · · · · · · · · · ·		0.461138
1_3=:=33.:31		0.104416
T		and have an expense of specimens and representation and
0.615186		And the second second second second
- I	95% UCLs (Assuming Lognormal Distr	ibution)
A THE RESIDENCE AND THE PROPERTY OF THE PARTY OF THE PART	THE SAME AS AND A CONTRACT OF A SAME AS A SAME A S	6.173482
<del></del>		7.507581
- classical and a comment of the control of the con	THE PERSON OF TH	8.689348
1 0.000702		11.0107
**************************************	models and an experimental such and the such as a such as the	1110101
T	95% Non-parametric LICLs	Water to the contraction of the
	sames and is traver and manifest to a remaind a pre-til Mannibal discommenders and comment and east-to-to-to-t	18.58372
	The state of the s	21.94497
		19.21091
		18.68662
1		18.43317
		28.68716
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	20.60495
105)		19.31111
.00)	and an intermediate to the second livering the property of the property of the second livering to the second livering the seco	23.65278
64/ 110t	CONTRACTOR OF THE PROPERTY OF	31.42702
ou) UUL	90% Unebysnev (Mean, 5d) UUL	marin and a real a sundanian
7	D7 E0/ Chahrahay /Mana Call HO!	1 40 05000
	97.5% Chebyshev (Mean, Sd) UCL 99% Chebyshev (Mean, Sd) UCL	40.35235 57.88443
	72 19 1.85 285 10.8 2.5 40.15373 1612.322 3.717938	19 Lilliefors 5% Critical Value 1.85 Data not normal at 5% significance level 285 10.8 95% UCL (Assuming Normal Distribut 2.5 Student's-t UCL 40.15373 1612.322 Gamma Distribution Test 3.717938 A-D Test Statistic 5.640623 A-D 5% Critical Value K-S Test Statistic K-S 5% Critical Value 0.504658 Data do not follow gamma distribution 0.49289 at 5% significance level 21.40061 21.91157 95% UCLs (Assuming Gamma Distribut 72.67082 Approximate Gamma UCL 70.9762 Adjusted Gamma UCL 52.57635 0.046667 Lognormal Distribution Test 52.25349 Lilliefors Test Statistic Lilliefors 5% Critical Value Data not lognormal at 5% significance lev 0.615186 5.652489 95% UCLs (Assuming Lognormal Distribution Test 1.122717 95% H-UCL 0.948558 95% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL Standard Bootstrap UCL Boctstrap-t UCL Hall's Bootstrap UCL BCA Bootstrap UCL BCA Bootstrap UCL

1,1-Dichioroethylene			<b></b>
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	72	Lilliefors Test Statisitic	0.479077
Number of Unique Samples	17	Lilliefors 5% Critical Value	0.104416
Minimum ug/kg	1,85	Data not normal at 5% significance level	
Maximum ug/kg	285	11. 11. 11. 11. 11. 11. 11. 11. 11. 11.	
Mean	8.427778	95% UCL (Assuming Normal Distribu	
Median	2.5	Student's-t UCL	15.3188
Standard Deviation	35.08475		
Variance	1230.94	Gamma Distribution Test	
Coefficient of Variation	4.16299	A-D Test Statistic	22.74576
Skewness	7.297831	A-D 5% Critical Value	0.809508
тупату плице инперсорет в верхняться в напада быльна в выше в напада в напа	aparagian magampagapagapa	K-S Test Statistic	0.522158
Gamma Statistics		K-S 5% Critical Value	0.110566
k hat	0.578339	Data do not follow gamma distribution	wanes in a sun view of each
k star (bias corrected)	0.563501	at 5% significance level	
Theta hat	14.57238		
Theta star	14.9561	95% UCLs (Assuming Gamma Distributi	on)
nu hat	83.28084	Approximate Gamma UCL	11.1409
nu star	81.14414	Adjusted Gamma UCL	11.2048
Approx.Chi Square Value (.05)	61.38319		
Adjusted Level of Significance	0.046667	Lognormal Distribution Test	
Adjusted Chi Square Value	61.03297	Lilliefors Test Statisitic	0.47049
THE STREET WHILE TO SHARE SO WITH STREET STREET, STREET STREET STREET, STREET STREET, STREET STREET, S		Lilliefors 5% Critical Value	0.104416
Log-transformed Statistics		Data not lognormal at 5% significance lev	Carachathan wave seven analysis and
Minimum of log data	0.615186	тисти платим вирупицу, (др. мадляти у други модятнуждин м.др. Угалод V4 (10), етистиция етистити и истетивност	
Maximum of log data	5.652489	95% UCLs (Assuming Lognormal Distr	ibution)
Mean of log data	1.057325	95% H-UCL	4,974752
Standard Deviation of log data	0.826842	95% Chebyshev (MVUE) UCL	5.969442
Variance of log data	0.683668	97.5% Chebyshev (MVUE) UCL	6.81019
ر برای این برای این این این این این این این این این ا		99% Chebyshev (MVUE) UCL	8,461697
		95% Non-parametric UCLs	
The second secon		CLT UCL	15.2288
		Adj-CLT UCL (Adjusted for skewness)	19.02868
		Mod-t UCL (Adjusted for skewness)	15.91149
		Jackknife UCL	15.318
THE COLUMN TO SERVICE AND A SE		Standard Bootstrap UCL	15.0845
The state of the s	The second secon	Bootstrap-t UCL	41.6787
RECOMMENDATION		Hall's Bootstrap UCL	45.9458
Data are Non-parametric (0	.05)	Percentile Bootstrap UCL	16.3951
	And the second s	BCA Bootstrap UCL	22.2368
Use 95% Chebyshev (Mean,	Sd) UCL	95% Chebyshev (Mean, Sd) UCL	26.4508
	4	97.5% Chebyshev (Mean, Sd) UCL	34.24940

Data File C:\Documents and Se	ttings\Admini	stratorVariable: VOCs in Soil Samples	s 1 - 10 ft bg
1,2,4-Trimethylbenzene			
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	72	Lilliefors Test Statisitic	0.50803
Number of Unique Samples	19	Lilliefors 5% Critical Value	0.104416
Minimum lug/kg	1.85	Data not normal at 5% significance level	
Maximum ug/kg	6700	หมาย เมนายน และ เมนายน ค.ศ มายน ค.ศ - มายน ค.ศ	
Mean	97.92292	95% UCL (Assuming Normal Distribu	ition)
Median	2.5	Student's-t UCL	252.9137
Standard Deviation	789.1162		
Variance	622704.4	Gamma Distribution Test	
Coefficient of Variation	8.058545	A-D Test Statistic	25.93048
Skewness	8.482144	A-D 5% Critical Value	0.904108
		K-S Test Statistic	0.515137
Gamma Statistics		K-S 5% Critical Value	0.116154
k hat	0.21286	Data do not follow gamma distribution	
k star (bias corrected)	0.21325	at 5% significance level	
Theta hat	460.0351		
Theta star	459.1936	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	30.65179	Approximate Gamma UCL	157.8633
nu star	30.70797	Adjusted Gamma UCL	159.4357
Approx.Chi Square Value (.05)	19.04821		
Adjusted Level of Significance	0.046667	Lognormal Distribution Test	
Adjusted Chi Square Value	18.86035	Lilliefors Test Statisitic	0.459471
		Lilliefors 5% Critical Value	0.104416
Log-transformed Statistics		Data not lognormal at 5% significance lev	/el
Minimum of log data	0.615186		
Maximum of log data	8.809863	95% UCLs (Assuming Lognormal Distr	ibution)
Mean of log data	1.160509	95% H-UCL	8.506396
Standard Deviation of log data	1,144707	95% Chebyshev (MVUE) UCL	10.46509
Variance of log data	1.310354	97.5% Chebyshev (MVUE) UCL	12.37305
♥ work words who are who residence who residence is and less thank in something solda		99% Chebyshev (MVUE) UCL	16.12086
THE THINK COMMISSION OF THE WAS THE THE PROPERTY OF THE THEORY OF THE SHAPE OF THE	0-M. 104. 144. 111. 111. 114. 114. 114. 114	95% Non-parametric UCLs	ooranna oo aan kaleen ah dhaa badhadha dhadhadha
		CLT UCL	250.8914
5 5 1		Adj-CLT UCL (Adjusted for skewness)	350.2246
and the second s		Mod-t UCL (Adjusted for skewness)	268.4077
		Jackknife UCL	252.9137
HANNING MATCHAIA MAKADAWA URW SALESTANIA		Standard Bootstrap UCL	254.1515
WANTED TO CONTINUE AND		Bootstrap-t UCL	18194.36
RECOMMENDATION		Hall's Bootstrap UCL	11148.52
Data are Non-parametric (0	.05)	Percentile Bootstrap UCL	283,7097
enter entre un cure en esta la marifesta de la 20 esta de 10 de 10 esta entre entre en entre entre entre entre En esta entre e		BCA Bootstrap UCL	382.3333
Use 97.5% Chebyshev (Mean	, Sd) UCL	95% Chebyshev (Mean, Sd) UCL	503.2928
and the second of the second of the property of the second		97.5% Chebyshev (Mean, Sd) UCL	678.6967
Contraction of the Contraction o		99% Chebyshev (Mean, Sd) UCL	1023.244
en de bewerk de de de petrone server in operation de server de server de	A send of the British send of the Send of	THE PROPERTY OF THE PROPERTY O	

ettings\Admin	istrator\Del Variable: VOCs in Soil Samples	1 - 10 ft bg:
	Normal Distribution Test	
72	Lilliefors Test Statisitic	0.470789
17	THE STREET OF STREET	0.104416
	humanninasinimsinui lasunissiamaseni idsinaisinisseminauuen ein issuus siminauuus aini esiniinsiniideli	- And statement of department of
titied <b>b</b> illionide til en skrigted omstråde om til sede eller brede en skrives <mark>te</mark> en	95% UCL (Assuming Normal Distribu	tion)
and the species in the construction in the con	in the second companies and the second compani	14.15641
and the first control of the control		
and behavior the an inches better the better the feet	Gamma Distribution Test	KINING ANNUALISM ST. (ANNUALINI) KINI
~~ <del>}</del> ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	**************************************	21.81689
		0.804592
0.130403		0.518428
		a sim a minimum and an aminimum and and
1 0 600506		0.110185
Jib Stein wantelbierapppinm mimie erpifin		namente entre
and the second s	at 5% significance level	
	emistering and the supplemental and an emission of the supplement of the supplemental emissions and the supplemental emissions are supplemental emissions and the supplemental emissions are supplemental emissions and th	
<del></del>		
^ <b></b>		9.859099
and the second section	Adjusted Gamma UCL	9.913182
	намини интелементация в из винирафиры Аффийска вими в привиделения винившиния винивыствия в интелеме	710 =17110711F01711F0170170
	and the state of t	
67.06384	tive are large and driving a design of the control	0.468475
	Lilliefors 5% Critical Value	0.104416
	Data not lognormal at 5% significance lev	el
0.615186		
5.652489	95% UCLs (Assuming Lognormal Distr	ibution)
1.044988	95% H-UCL	4.650075
0.777964	95% Chebyshev (MVUE) UCL	5.543609
0.605228	97.5% Chebyshev (MVUE) UCL	6.286204
	99% Chebyshev (MVUE) UCL	7.744886
	95% Non-parametric UCLs	
		14,0702
	<u>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</u>	18.1325
410 Personal Communication of Communicat		14.79005
		14.15641
	4000 E. 9 00 E. 9 00 0 E. 10 00 0 E. 10 00 0 E. 10 0 E	14.12286
		49.98023
m danis si animas minis a minis an	resulting sense and a sense again and a management of the sense and a sense and a sense and a sense and a sense	47.33094
1.05)		15.01875
J.VOJ	BCA Bootstrap UCL	20.13542
		1 40.13044
64/ 110t		<del>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</del>
Sd) UCL	95% Chebyshev (Mean, Sd) UCL	24.83096
Sd) UCL		<del>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</del>
	72 17 1.85 285 7.548611 2.5 33.6428 1131.838 4.45682 8.136405 0.628536 0.611606 12.00983 12.34227 90.5092 88.07131 67.43173 0.046667 67.06384 0.615186 5.652489 1.044988 0.777964	Normal Distribution Test  72 Lilliefors Test Statisitic  17 Lilliefors 5% Critical Value  1.85 Data not normal at 5% significance level  285  7.548611 95% UCL (Assuming Normal Distribut 2.5 Student's-t UCL  33.6428  1131.838 Gamma Distribution Test  4.45682 A-D Test Statistic  8.136405 A-D 5% Critical Value  K-S Test Statistic  K-S 5% Critical Value  0.628536 Data do not follow gamma distribution  0.611606 at 5% significance level  12.00983  12.34227 95% UCLs (Assuming Gamma Distributi 90.5092 Approximate Gamma UCL  86.07131 Adjusted Gamma UCL  67.43173  0.046667 Lognormal Distribution Test Lilliefors Test Statistic  Lilliefors 5% Critical Value  Data not lognormal at 5% significance level  0.615186  5.652489 95% UCLs (Assuming Lognormal Distribution Test) 1.044988 95% H-UCL 0.777964 95% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL 99% Chebyshev (MVUE) UCL Standard Bootstrap (UCL Bootstrap-t UCL Bootstrap-t UCL Hall's Bootstrap UCL

Data File C:\Documents and Se	ttings\Admin	nistrator\De Variable: VOCs in Soil Samples	1 - 10 ft ba
Benzene	l	Total Control of the	
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	72	Lilliefors Test Statisitic	0.489766
Number of Unique Samples	15	Lilliefors 5% Critical Value	0.104416
Minimum ug/kg	1.85	Data not normal at 5% significance level	
Maximum ug/kg	285	THE RESERVE OF THE PROPERTY OF	
Mean	6.465278	95% UCL (Assuming Normal Distribu	ition)
Median	2.5	Student's-t UCL	13.00774
Standard Deviation	33.31013		
Variance	1109.565	Gamma Distribution Test	
Coefficient of Variation	5.152157	A-D Test Statistic	24.11413
Skewness	8.46821	A-D 5% Critical Value	0.800832
		K-S Test Statistic	0.52471
Gamma Statistics		K-S 5% Critical Value	0.109894
k hat	0.666921	Data do not follow gamma distribution	
k star (bias corrected)	0.648392	at 5% significance level	16 merci mi mi merce mercem en recepcidad-s-l (448-4-
Theta hat	9.694217	and the state of t	anne a cannon con continuo da colonia de colonia de Calebra de Cal
Theta star	9.971249	95% UCLs (Assuming Gamma Distribut	ion)
Inu hat	96.03663	Approximate Gamma UCL	8.374741
nu star	93.36844	Adjusted Gamma UCL	8.419236
Approx.Chi Square Value (.05)	72.08019	Tagotoa Gamma OOL	
Adjusted Level of Significance	0.046667	Lognormal Distribution Test	
Adjusted Chi Square Value	71.69925	Lilliefors Test Statisitic	0.455142
	1	Lilliefors 5% Critical Value	0.104416
Log-transformed Statistics		Data not lognormal at 5% significance lev	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Minimum of log data	0.615186	Date for to grant and a to to significant or to	<u></u>
Maximum of log data	5.652489	95% UCLs (Assuming Lognormal Distr	ibution)
Mean of log data	0.954074	95% H-UCL	3.602587
Standard Deviation of log data	0.612688	95% Chebyshev (MVUE) UCL	4.18265
Variance of log data	0.375386	97.5% Chebyshev (MVUE) UCL	4.641297
		99% Chebyshev (MVUE) UCL	5.542218
		The second secon	- Acada Harring
		95% Non-parametric UCLs	
		CLT UCL	12.92237
		Adj-CLT UCL (Adjusted for skewness)	17.10853
and the field of the destribution of the destr		Mod-t UCL (Adjusted for skewness)	13.6607
port of the COMMITTEE A coloration (COMMITTEE ACCUSATION OF the COMMITTEE ACCUSATION O		Jackknife UCL	13.00774
The second of th		Standard Bootstrap UCL	12.70551
The second secon		Bootstrap-t UCL	352.7053
RECOMMENDATION	Antimitatementementementement	Hall's Bootstrap UCL	171.0412
Data are Non-parametric (0	.05)	Percentile Bootstrap UCL	14.31806
The state of the s	namana kanana anamana ana	BCA Bootstrap UCL	22.11042
Use 95% Chebyshev (Mean, S	3d) UCI	95% Chebyshev (Mean, Sd) UCL	23.57673
The state of the s	A CALL TO THE STREET OF T	97.5% Chebyshev (Mean, Sd) UCL	30.98087
	***************************************	99% Chebyshev (Mean, Sd) UCL	45.52487
	ne de la cele de la cele cele de la cele de la celedad	The state of the s	.9.95.191
	1		1

Data File   C:\Documents and Se	ttings\Admini	strator\De Variable: VOCs in Soil Samples	<b>1</b> - 10 ft bg
sec-Butylbenzene		THE STATE OF THE SECOND STATE OF THE SECOND	an and anomal anomal an event.
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	72	Lilliefors Test Statisitic	0.476735
Number of Unique Samples	37	Lilliefors 5% Critical Value	0.104416
Minimum ug/kg	1.85	Data not normal at 5% significance level	macalima miacalimina alikaasim.
Maximum lug/kg	3700		
Mean	63.91944	95% UCL (Assuming Normal Distribut	tion)
Median	2,75	Student's-t UCL	149.3366
Standard Deviation	434.8908	(e-anit-kantuski idimmel imi kedi kek lekuk Molokelaki-Melak-Meli-Mali-Mali-Meli-Meli-Meli-Meli-Meli-Meli-Meli-Me	pracquipment and content and approxim
Variance	189130	Gamma Distribution Test	• • • • • • • • • • • • • • • • • • • •
Coefficient of Variation	6.803732	A-D Test Statistic	13.1601
Skewness	8.465041	A-D 5% Critical Value	0.864187
		K-S Test Statistic	0.301176
Gamma Statistics		K-S 5% Critical Value	0.114103
k hat	0.305586	Data do not follow gamma distribution	
k star (bias corrected)	0.302113	at 5% significance level	
Theta hat	209.1699		
Theta star	211.5748	95% UCLs (Assuming Gamma Distribution	on)
nu hat	44.00442	Approximate Gamma UCL	94.6585
nu star	43.50424	Adjusted Gamma UCL	95.4289
Approx.Chi Square Value (.05)	29.37683		Approximation and an order of all and are red to
Adjusted Level of Significance	0.046667	Lognormal Distribution Test	
Adjusted Chi Square Value	29.13967	Lilliefors Test Statisitic	0.263121
от в 1 до в при по в подражения	or A P - Adding - Dedickers does eden on but	Lilliefors 5% Critical Value	0.104416
Log-transformed Statistics		Data not lognormal at 5% significance leve	el
Minimum of log data	0.615186	กร มเก. เขา เก. จากการแกรง ขายมาก เพื่อใหม่ และ	nuanalina aliman alima ilia me
Maximum of log data	8.216088	95% UCLs (Assuming Lognormal Distri	bution)
Mean of log data	1.907875	95% H-UCL	27.15413
Standard Deviation of log data	1.384162	95% Chebyshev (MVUE) UCL	33.22192
Variance of log data	1.915905	97.5% Chebyshev (MVUE) UCL	40.18594
Может подпород (подоброжно работ постородительного распородительного на подпородительного на отности 	**************************************	99% Chebyshev (MVUE) UCL	53.86542
	T	95% Non-parametric UCLs	tiginagan, and an and an analysis and an and an and an an an and an
तामा स्वरूप सामान् का नामान् (व्याक्षामा व्याक्षामा का		CLT UCL	148.2221
	1	Adj-CLT UCL (Adjusted for skewness)	202,8554
a conservation of section in farming an annual management that is refuled by Mothod Mitter area.		Mod-t UCL (Adjusted for skewness)	157.8583
	<u> </u>	Jackknife UCL	149.3366
/ N. (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	1	Standard Bootstrap UCL	148.942
		Bootstrap-t UCL	1799.56
RECOMMENDATION		Hali's Bootstrap UCL	720.2168
Data are Non-parametric (0	0.05)	Percentile Bootstrap UCL	166.2118
ACCOUNTS OF THE PROPERTY OF TH	ilia waka cama a marana a mar	BCA Bootstrap UCL	222.3431
Use 97.5% Chebyshev (Mean	. Sd) UCI	95% Chebyshev (Mean, Sd) UCL	287.3233
Table 1	174/34	97.5% Chebyshev (Mean, Sd) UCL	383.9904
		99% Chebyshev (Mean, Sd) UCL	573.8741
A STATE OF THE STA			719.0171

Bromodichloromethane			
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	72	Lilliefors Test Statisitic	0.498538
Number of Unique Samples	14	Lilliefors 5% Critical Value	0.104416
Minimum ug/kg	1.85	Data not normal at 5% significance level	
Maximum [ug/kg	285		
Mean	6.348611	95% UCL (Assuming Normal Distribu	
Median	2.5	Student's-t UCL	12.89033
Standard Deviation	33.30634	ининутиния (жив жажиния чээ канкуу униналину жанкулау кулану кулану жүгө үчүн үчүн үчүн үчүн үчүн жангу жүнү ж	
Variance	1109.312	Gamma Distribution Test	
Coefficient of Variation	5.246241	A-D Test Statistic	24.9988
Skewness	8.481816	A-D 5% Critical Value	0.800883
	NEW PROPERTY OF STREET,	K-S Test Statistic	0.53421
Gamma Statistics		K-S 5% Critical Value	0.109898
k hat	0.6664	Data do not follow gamma distribution	no menuk embahaninginesi
k star (bias corrected)	0.647893	at 5% significance level	
Theta hat	9.526725		IIII. III. III. III III III III III III
Theta star	9.798861	95% UCLs (Assuming Gamma Distributi	,
nu hat	95.96163	Approximate Gamma UCL	8.22449
nu star	93.29656	Adjusted Gamma UCL	8,26821
Approx.Chi Square Value (.05)	72.01698	a aura suma susun surrums ausmanism sumaman dubanna aikim surrus and dibudik 440 Fizi49,	a mile winner a me ande an e en
Adjusted Level of Significance	0.046667	Lognormal Distribution Test	
Adjusted Chi Square Value	71.63622	Lilliefors Test Statisitic	0.4571
Middle Maries and a second a second and a se		Lilliefors 5% Critical Value	0.10441
Log-transformed Statistics	in a necession in the management of the management of the second of the	Data not lognormal at 5% significance lev	el
Minimum of log data	0.615186		
Maximum of log data	5.652489	95% UCLs (Assuming Lognormal Distr	
Mean of log data	0.93505	95% H-UCL	3.46032
Standard Deviation of log data	0.588439	95% Chebyshev (MVUE) UCL	3,9997
Variance of log data	0.346261	97.5% Chebyshev (MVUE) UCL	4.42357
nur kikum miminim miminim miminim mikum na iqofa ija bilidilibbe toʻrinin miminim miminim miminim miminim mimi		99% Chebyshev (MVUE) UCL	5.25602
		95% Non-parametric UCLs	paragraphic and the control of the c
5		CLT UCL	12.8049
	and the second s	Adj-CLT UCL (Adjusted for skewness)	16.9973
		Mod-t UCL (Adjusted for skewness)	13.5442
**************************************		Jackknife UCL	12.8903
C - F - C - C - C - C - C - C - C - C -		Standard Bootstrap UCL	12.5738
		Bootstrap-t UCL	484.559
RECOMMENDATION		Hall's Bootstrap UCL	190.354
Data are Non-parametric (C	).05)	Percentile Bootstrap UCL	14.1791
		BCA Bootstrap UCL	18.1729
Use 95% Chebyshev (Mean,	Sd) UCL	95% Chebyshev (Mean, Sd) UCL	23.4581
		97.5% Chebyshev (Mean, Sd) UCL	30.8614
		99% Chebyshev (Mean, Sd) UCL	45.4037

Data File C:\Documents and Se	ettings\Admini	strator\De Variable: VOCs in Soil Samples 1 - 10 ft b
n-Butylbenzene		
Raw Statistics		Normal Distribution Test
Number of Valid Samples	72	Lilliefors Test Statisitic 0.41972
Number of Unique Samples	23	Lilliefors 5% Critical Value 0.10441
Minimum ug/kg	1.85	Data not normal at 5% significance level
Maximum ug/kg	285	The second second residence of a supported to the support of the s
Mean	8.730556	95% UCL (Assuming Normal Distribution)
Median	2.5	Student's-t UCL 15.4007
Standard Deviation	33.96033	
Variance	1153.304	Gamma Distribution Test
Coefficient of Variation	3.889824	A-D Test Statistic 17.2779
Skewness	7.827794	A-D 5% Critical Value 0.80468
The second secon	7.02770-7	K-S Test Statistic 0.45075
Gamma Statistics	in vinulai vimia-niaula sainia muuta	K-S 5% Critical Value 0.11019
k hat	0.62754	Data do not follow gamma distribution
k star (bias corrected)	0.610652	at 5% significance level
Theta hat	13.91235	at 5% significance level
Theta star	the state of the same of the same of the same of	0.50/ 1101 c (Applyming Commo Dietribution)
West and the second sec	14.29712	95% UCLs (Assuming Gamma Distribution)
nu hat	90.36573	Approximate Gamma UCL 11.4053
nu star	87.93382	Adjusted Gamma UCL 11.46
Approx.Chi Square Value (.05)	67.31133	STREET OF THE PROPERTY AND AND A STREET AND
Adjusted Level of Significance	0.046667	Lognormal Distribution Test
Adjusted Chi Square Value	66.94379	Lilliefors Test Statisitic 0.42531
Washington and the state of the		Lilliefors 5% Critical Value 0.10441
Log-transformed Statistics		Data not lognormal at 5% significance level
Minimum of log data	0.615186	
Maximum of log data	5.652489	95% UCLs (Assuming Lognormal Distribution)
Mean of log data	1.188678	95% H-UCL 6.14585
Standard Deviation of log data	0.893492	95% Chebyshev (MVUE) UCL 7.4329
Variance of log data	0.798328	97.5% Chebyshev (MVUE) UCL 8.54807
THE PROPERTY OF THE PROPERTY O	ediescomeane is annia juma a su	99% Chebyshev (MVUE) UCL 10.7384
Augustus paragum de citaç in que ja departe paragum de citaç en mission de citações per citações de ci		95% Non-parametric UCLs
adice cial discussion a manage from time and an approximate an app	o se in unu e suro se inun so unu e a imi	CLT UCL 15.3136
A	and the second control of the second control	Adj-CLT UCL (Adjusted for skewness) 19.258
The state of the s		Mod-t UCL (Adjusted for skewness) 16.0160
		Jackknife UCL 15.4007
	1	Standard Bootstrap UCL 15.3435
		Bootstrap-t UCL 36.7195
RECOMMENDATION		Hall's Bootstrap UCL 35.2844
Data are Non-parametric (0	1.05)	Percentile Bootstrap UCL 16.7090
Data are Morrhagametric (C	,.00)	BCA Bootstrap UCL 22.3694
Use 95% Chebyshev (Mean,	84/ 1101	
Ose som Chebyshev (Mean, )	OU) UCL	the string of th
		97.5% Chebyshev (Mean, Sd) UCL 33.7246
		99% Chebyshev (Mean, Sd) UCL 48.5525

Data File C:\Documents and Secis-1,2-dichloroethene	- migayaminin	strator\De Variable: VOCs in Soil Sample	1 - 10 11 DC
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	72	Lilliefors Test Statisitic	0.363188
Number of Unique Samples	44	Lilliefors 5% Critical Value	0.104416
Minimum ug/kg	1.85	Data not normal at 5% significance level	1 0.107710
Maximum ug/kg	5500	Data Hot Rolling at 570 significance level	
Mean	349.3354	95% UCL (Assuming Normal Distribu	ition)
Median	5.25	Student's-t UCL	544.3622
Standard Deviation	992.9543	Student 5-1 OCL	J 344.3022
Variance	985958.2	Gamma Distribution Test	
Coefficient of Variation	2.842409	A-D Test Statistic	7.131883
Skewness	3.935124	A-D Test Statistic  A-D 5% Critical Value	0.8884
okewness	3.935124	K-S Test Statistic	0.243625
Compan Chatistics			0.115353
Gamma Statistics	T 6 040040	K-S 5% Critical Value	1 0.115555
k hat	0.248349	Data do not follow gamma distribution	
k star (bias corrected)	0.247261	at 5% significance level	es relative areas relative visions es in a
Theta hat	1406.63	AFOUND //AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	
Theta star	1412.823	95% UCLs (Assuming Gamma Distribut	
nu hat	35.76228	Approximate Gamma UCL	541.9931
nu star	35.60552	Adjusted Gamma UCL	546.9443
Approx.Chi Square Value (.05)	22.94913	**************************************	
Adjusted Level of Significance	0.046667	Lognormal Distribution Test	T = =====
Adjusted Chi Square Value	22.74138	Lilliefors Test Statisitic	0.269396
		Lilliefors 5% Critical Value	0.104416
Log-transformed Statistics		Data not lognormal at 5% significance lev	/el
Minimum of log data	0.615186		
Maximum of log data	8.612503	95% UCLs (Assuming Lognormal Dist	
Mean of log data	2.992932	95% H-UCL	1497.106
Standard Deviation of log data	2.497257	95% Chebyshev (MVUE) UCL	1199.926
Variance of log data	6.236294	97.5% Chebyshev (MVUE) UCL	1552.984
د المساورة المراجعة المراجعة المساورة المراجعة المساورة المراجعة المراجعة المراجعة المراجعة المراجعة المراجعة 		99% Chebyshev (MVUE) UCL	2246.5
		95% Non-parametric UCLs	
		CLT UCL	541.8175
		Adj-CLT UCL (Adjusted for skewness)	599.805
		Mod-t UCL (Adjusted for skewness)	553.4071
		Jackknife UCL	544.3622
		Standard Bootstrap UCL	533.406
		Bootstrap-t UCL	697.468
RECOMMENDATION		Hail's Bootstrap UCL	548.667
Data are Non-parametric (	0.05)	Percentile Bootstrap UCL	552.210
-ம்-ரையில் செய்தி ஆரதாவாதாகாபாரா கூறாக காகர்க்க காகர்க்கு மா கிலில் கிலில் இனிற்ற காரப்படையற்ற		BCA Bootstrap UCL	604.100
Use 99% Chebyshev (Mean,	Sd) UCL	95% Chebyshev (Mean, Sd) UCL	859.417
na mana and	and and the same and a second a	97.5% Chebyshev (Mean, Sd) UCL	1080.13
		37.376 OHEDVEHEN HAICAIL OUT OOL	1 1000+11

Data File   C:\Documents and Se	ettings\Adminis	strator\De Variable: VOCs in Soil Sample	s <b>1 - 10</b> ft bo
Chloroform Raw Statistics		Blama I Blakile, ties Test	
Number of Valid Samples	72	Normal Distribution Test Lilliefors Test Statisitic	0.498521
Number of Unique Samples	14	Lilliefors 5% Critical Value	0.104416
Minimum lug/kg	1.85	Data not normal at 5% significance level	0.104410
Maximum ug/kg	285	Data not normal at 5 % significance level	
Mean	6.347222	95% UCL (Assuming Normal Distribu	ition)
Median	2.5	Student's-t UCL	12.88894
Standard Deviation	33.30636	Student 8-1 OCL	12.00094
Variance	1109.313	Gamma Distribution Test	
Coefficient of Variation	5.247391	A-D Test Statistic	25.00985
CONTRACTOR OF THE PROPERTY OF	***	A-D rest Statistic A-D 5% Critical Value	0.800884
Skewness	8.481935	K-S Test Statistic	0.534158
And the second of the second o		to be a superior of the second	Water and the second of Second
Gamma Statistics	1 0 000000	K-S 5% Critical Value	0.109898
k hat	0.666393	Data do not follow gamma distribution	J. E
k star (bias corrected)	0.647886	at 5% significance level	·
Theta hat	9.524739	OFSY LIGHT (Associate Common District	ilan)
Theta star	9.796817	95% UCLs (Assuming Gamma Distribut	
nu hat	95.96064	Approximate Gamma UCL	8.222711
nu star	93.29561	Adjusted Gamma UCL	8.266417
Approx.Chi Square Value (.05)	72.01615		• ^
Adjusted Level of Significance	0.046667	Lognormal Distribution Test	0.457012
Adjusted Chi Square Value	71.63539	Lilliefors Test Statisitic	
Lag transfermed Obstitutes		Lilliefors 5% Critical Value	0.104416
Log-transformed Statistics	0.645400	Data not lognormal at 5% significance lev	/e
Minimum of log data	0.615186	95% UCLs (Assuming Lognormal Dist	-ibution\
Maximum of log data	5.652489	95% OCLS (Assuming Lognormal Dist	3.458506
Mean of log data Standard Deviation of log data	0.93482		3.456500
Variance of log data	0.588097	95% Chebyshev (MVUE) UCL 97.5% Chebyshev (MVUE) UCL	4.420762
variance or log data	0.345858	99% Chebyshev (MVUE) UCL	5.252317
***************************************		99% Chebysnev (MVOE) OCL	1 3.232317
	<del></del>	95% Non-parametric UCLs	
THE RESIDENCE OF THE PROPERTY		CLT UCL	12.80359
······································	<b></b>	Adj-CLT UCL (Adjusted for skewness)	16.99606
	1	Mod-t UCL (Adjusted for skewness)	13.54288
	1	Jackknife UCL	12.88894
		Standard Bootstrap UCL	12.84153
		Bootstrap-t UCL	437,6628
DECOMMENDATION		representative and the angle of the companion of the comp	190.9606
RECOMMENDATION	7 051	Hall's Bootstrap UCL	14.17361
Data are Non-parametric (	J.U3)	Percentile Bootstrap UCL	
Lipo 959/ Chahrahar //	64/1101	BCA Bootstrap UCL	18.16667 23.45674
Use 95% Chebyshev (Mean,	Sal Acr	95% Chebyshev (Mean, Sd) UCL	F. t. the M t
		97.5% Chebyshev (Mean, Sd) UCL	30.86004
	ere	99% Chebyshev (Mean, Sd) UCL	45.40239

Data File   C:\Documents and Se	ttings\Admir	nistrator\De Variable: VOCs in Soil Samples	1 - 10 ft bg
Cymene			
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	72	Lilliefors Test Statisitic	0.498327
Number of Unique Samples	23	Lilliefors 5% Critical Value	0.104416
Minimum ug/kg	1.85	Data not normal at 5% significance level	ng PT I - 1 de las les Interiorint i vitata adunt in industra indu
Maximum ug/kg	2400		·····
Mean	38.51181	95% UCL (Assuming Normal Distribu	1
Median	2.5	Student's-t UCL	94.037
Standard Deviation	282.6996	I MILINGO NO BORNA STATUS O BUTTO CONTROL O STATE O BUTTO NO BORNA DE CONTROL O STATE O BUTTO NO STATE O STATE	
Variance	79919.05	Gamma Distribution Test	and another for any open and a solution of the second state of the
Coefficient of Variation	7.340595	A-D Test Statistic	24.11844
Skewness	8.442864	A-D 5% Critical Value	0.873773
	***************************************	K-S Test Statistic	0.461138
Gamma Statistics	******	K-S 5% Critical Value	0.114608
k hat	0.281396	Data do not follow gamma distribution	n et i messada i innoma cerm mentra mes de ferm a
k star (bias corrected)	0.27893	at 5% significance level	
Theta hat	136.8598	иниментичення филиция на направидення филометичности поставини подати податичности поставить податичности пост	interativisti interativa inclusiva in la la reminella altre
Theta star	138.0696	95% UCLs (Assuming Gamma Distributi	7
nu hat	40.52102	Approximate Gamma UCL	58.06054
nu star	40.16598	Adjusted Gamma UCL	58.55522
Approx.Chi Square Value (.05)	26.64227	करण कर हो। हो कि का में पहिल्ला का कि कि की अपने का में कर कि हो जो का का कि वा का कि का का कि का का कि का का क का कि का	
Adjusted Level of Significance	0.046667	Lognormal Distribution Test	·
Adjusted Chi Square Value	26.41719	Lilliefors Test Statisitic	0.418494
		Lilliefors 5% Critical Value	0.104416
Log-transformed Statistics	14 16 ** 1615   Petales I a consider description description	Data not lognormal at 5% significance leve	9
Minimum of log data	0.615186		
Maximum of log data	7.783224	95% UCLs (Assuming Lognormal Distri	·
Mean of log data	1.174744	95% H-UCL	7.270969
Standard Deviation of log data	1.030153	95% Chebyshev (MVUE) UCL	8.898723
Variance of log data	1.061216	97.5% Chebyshev (MVUE) UCL	10.39409
	***************************************	99% Chebyshev (MVUE) UCL	13.33145
		95% Non-parametric UCLs	
	to the transfer of the State of	CLT UCL	93.31251
		Adj-CLT UCL (Adjusted for skewness)	128.7337
-		Mod-t UCL (Adjusted for skewness)	99.56199
		Jackknife UCL	94.037
		Standard Bootstrap UCL	92.91294
		Bootstrap-t UCL	3729.149
RECOMMENDATION		Hall's Bootstrap UCL	2242.238
Data are Non-parametric (0.	05)	Percentile Bootstrap UCL	104.7208
		BCA Bootstrap UCL	170.2764
Use 97.5% Chebyshev (Mean,	Sd) UCL	95% Chebyshev (Mean, Sd) UCL	183.7349
		97.5% Chebyshev (Mean, Sd) UCL	246.5731
		99% Chebyshev (Mean, Sd) UCL	370.0064

Data File C:\Documents and Se	tings\Admir	nistrator∖De Variable: VOCs in Soil Samples	1 - 10 ft bg
Ethylbenzene			
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	72	Lilliefors Test Statisitic	0.451046
Number of Unique Samples	33	Lilliefors 5% Critical Value	0.104416
Minimum jug/kg	1.85	Data not normal at 5% significance level	
Maximum ug/kg	7900		
Mean	170.0924	95% UCL (Assuming Normal Distribu	tion)
Median	2.5	Student's-t UCL	361.5654
Standard Deviation	974.8609	CONTROL OF THE CONTRO	
Variance	950353.7	Gamma Distribution Test	
Coefficient of Variation	5.731362	A-D Test Statistic	16.73289
Skewness	7.442567	A-D 5% Critical Value	0.901074
		K-S Test Statistic	0.360645
Gamma Statistics		K-S 5% Critical Value	0.115999
k hat	0.219714	Data do not follow gamma distribution	
k star (bias corrected)	0.219819	at 5% significance level	ming a strict with a strict with the strict wi
Theta hat	774.1528		
Theta star	773.7848	95% UCLs (Assuming Gamma Distributi	on)
nu hat	31.63884	Approximate Gamma UCL	271.9826
nu star	31.65389	Adjusted Gamma UCL	274.6438
Approx.Chi Square Value (.05)	19.7957		***************************************
Adjusted Level of Significance	0.046667	Lognormal Distribution Test	
Adjusted Chi Square Value	19.60388	Lilliefors Test Statisitic	0.349277
Parameter and a marine was a series of the s		Lilliefors 5% Critical Value	0.104416
Log-transformed Statistics		Data not lognormal at 5% significance leve	
Minimum of log data	0.615186		
Maximum of log data	8.974618	95% UCLs (Assuming Lognormal Distri	bution)
Mean of log data	1.836064	95% H-UCL	60.31747
Standard Deviation of log data	1.788198	95% Chebyshev (MVUE) UCL	68.80045
Variance of log data	3.197653	97.5% Chebyshev (MVUE) UCL	85.85652
		99% Chebyshev (MVUE) UCL	119.3599
дардатта модительный одория резиниелений намения выпроформ Аналималиний в одно		<del>นาย พระบุที่เหตุกร มาการเกราร์ เกราร์ ค</del> ากร คากระบาง คาการที่สามารถสามารถสามารถสามารถสามารถสามารถสามารถสามารถส 	s interested interested interested in
	······································	95% Non-parametric UCLs	College and a College of the College of Coll
**************************************	reservation (security security)	CLT UCL	359.067
		Adj-CLT UCL (Adjusted for skewness)	466.7417
The same state of the same sta		Mod-t UCL (Adjusted for skewness)	378.3604
		Jackknife UCL	361.5654
and the second s	on to the effective beautiful to held the color handlet about	Standard Bootstrap UCL	360.512
3	······································	Bootstrap-t UCL	2519.605
RECOMMENDATION	lanuma winu u vinus acumu acum	Hali's Bootstrap UCL	1673.895
Data are Non-parametric (0.	05)	Percentile Bootstrap UCL	379.5285
- the state of the	a richardan a sanna a sanna a san	BCA Bootstrap UCL	568.6028
Use 97.5% Chebyshev (Mean,	Sd) UCL	95% Chebyshev (Mean, Sd) UCL	670.8795
The second secon		97.5% Chebyshev (Mean, Sd) UCL	887.5705
the transfer opening of state year attention to the state of the state		99% Chebyshev (Mean, Sd) UCL	1313.218
m/s/mm/s/s/ms/ms/s/mm/s/mm/s/mm/s/mm/s		The second secon	The state of the s

Data File C:\Documents and Se	ettings\Admini	strator\De Variable: VOCs in Soil Sample	s 1 - 10 ft bg
Isopropylbenzene			41
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	72	Lilliefors Test Statisitic	0.44633
Number of Unique Samples	39	Lilliefors 5% Critical Value	0.104416
Minimum ug/kg	1.85	Data not normal at 5% significance level	
Maximum ug/kg	5100	Har Hills after the self existence consists and to the first of the self-consists of the first of the first of the self-consists of the first of the self-consists of the self-co	A A A STATE OF THE
Mean	91.06181	95% UCL (Assuming Normal Distribu	ution)
Median	4.575	Student's-t UCL	208.8182
Standard Deviation	599.542		anne de la companya del la companya de la companya
Variance	359450.6	Gamma Distribution Test	THE STORY SELECTION OF THE SELECTION OF
Coefficient of Variation	6.583902	A-D Test Statistic	11.60692
Skewness	8.445653	A-D 5% Critical Value	0.87023
The second section of the second	1 9.770000	K-S Test Statistic	0.263258
Gamma Statistics		K-S 5% Critical Value	0.114427
k hat	0.289399	Data do not follow gamma distribution	U.114761
k star (bias corrected)	0.2866	at 5% significance level	
Theta hat	and a second	at 5% significance level	
A A STATE OF THE PARTY OF THE P	314.6586	AE9/ LICL - (Assuming Common District	
Theta star	317.7317	95% UCLs (Assuming Gamma Distribut	
nu hat	41.67342	Approximate Gamma UCL	136.4407
nu star	41.27036	Adjusted Gamma UCL	137.5853
Approx.Chi Square Value (.05)	27.54422	त्रकार क्षेत्रका विकास का	and the module and the same and
Adjusted Level of Significance	0.046667	Lognormal Distribution Test	
Adjusted Chi Square Value	27.31509	Lilliefors Test Statisitic	0.251816
AND		Lilliefors 5% Critical Value	0.104416
Log-transformed Statistics		Data not lognormal at 5% significance lev	/el
Minimum of log data	0.615186		
Maximum of log data	8.536996	95% UCLs (Assuming Lognormal Distr	ribution)
Mean of log data	2.114765	95% H-UCL	46.96274
Standard Deviation of log data	1.554804	95% Chebyshev (MVUE) UCL	56.34321
Variance of log data	2.417414	97.5% Chebyshev (MVUE) UCL	69.13121
and and the state of the state		99% Chebyshev (MVUE) UCL	94.25075
of the state of th		95% Non-parametric UCLs	ng, nda alikal na Mgadha badh na 111 hal bekanda kana a bekana l
The state of the s		CLT UCL	207.2817
		Adj-CLT UCL (Adjusted for skewness)	282.4268
THE STATE OF THE S	Philadeli Model indexes Nacional Management	Mod-t UCL (Adjusted for skewness)	220.5393
		Jackknife UCL	208.8182
NAME OF THE OWNER OWNER OF THE OWNER		Standard Bootstrap UCL	204.9626
**************************************		Bootstrap-t UCL	1771.612
RECOMMENDATION		Hall's Bootstrap UCL	834.058
Data are Non-parametric (	0.05)	Percentile Bootstrap UCL	231.8708
		BCA Bootstrap UCL	308.0118
Use 97.5% Chebyshev (Mear	SALICE	95% Chebyshev (Mean, Sd) UCL	399.0472
Use of Joy of lenyoner (linear	1734,305	97.5% Chebyshev (Mean, Sd) UCL	532.3127
	<del></del>	99% Chebyshev (Mean, Sd) UCL	794.0871

Data File   C:\Documents and Se Naphthalene	zidi iga vAdimini 	strator\De Variable: VOCs in Soil Samples	1 - 10 11 00
Raw Statistics		Normal Distribution Test	4 x mm x x 10 2 10 10 10 10 10 10 10 10 10 10 10 10 10
Number of Valid Samples	72	Lilliefors Test Statisitic	0.482728
Number of Unique Samples	45	Lilliefors 5% Critical Value	0.104416
Minimum ug/kg	1.85	Data not normal at 5% significance level	0.104410
Maximum ug/kg	30000	Data not normal at 576 significance level	
Mean	502.9271	95% UCL (Assuming Normal Distribu	+100)
Median	13	Student's-t UCL	1196.15
Standard Deviation	3529.456	Students-t OCL	1190.13
Variance	12457057	Gamma Distribution Test	
Coefficient of Variation		**************************************	0.70500
And the state of t	7.017828	A-D Test Statistic	9.78526
Skewness	8.454432	A-D 5% Critical Value	0.901254
		K-S Test Statistic	0.244585
Gamma Statistics	0.640000	K-S 5% Critical Value	0.116008
k hat	0.219309	Data do not follow gamma distribution	nuanana anu anpie anu ayan
k star (bias corrected)	0.21943	at 5% significance level	
Theta hat	2293.237		
Theta star	2291.968	95% UCLs (Assuming Gamma Distributi	
nu hat	31.58047	Approximate Gamma UCL	804.5739
nu star	31.59795	Adjusted Gamma UCL	812,454
Approx.Chi Square Value (.05)	19.7514	mure sum some sur diversor sed statistical et de la tatistica de sed de sed se se en constant sed de la des si	lie beind ader beind eine Aderda der bei mit er
Adjusted Level of Significance	0.046667	Lognormal Distribution Test	·
Adjusted Chi Square Value	19.55982	Lilliefors Test Statisitic	0.239453
en de la litera de la litera de la companyone de la companyon		Lilliefors 5% Critical Value	0.104416
Log-transformed Statistics	It is successful to the second	Data not lognormal at 5% significance lev	el
Minimum of log data	0.615186		
Maximum of log data	10.30895	95% UCLs (Assuming Lognormal Distr	ii kwisiin nisaminiin siisin ii
Mean of log data	2.913099	95% H-UCL	472.9373
Standard Deviation of log data	2.156293	95% Chebyshev (MVUE) UCL	467.6029
Variance of log data	4.6496	97.5% Chebyshev (MVUE) UCL	596.1473
errann eann bear ath is sainn a' ainm is aguns (is aicigniús). An fiold de reimhiús eannainn ea anns		99% Chebyshev (MVUE) UCL	848.6479
	7	95% Non-parametric UCLs	kompressoroveni elitro blimi miklero i lini missolivi momeni el
		CLT UCL	1187.104
		Adj-CLT UCL (Adjusted for skewness)	1629.938
		Mod-t UCL (Adjusted for skewness)	1265.223
		Jackknife UCL	1196.15
		Standard Bootstrap UCL	1160.408
		Bootstrap-t UCL	15205.39
RECOMMENDATION	THE RESERVE THE PROPERTY OF THE PARTY OF THE	Hall's Bootstrap UCL	6460.488
Data are Non-parametric (C	0.05)	Percentile Bootstrap UCL	1328.73
and the same of th	- No Automorphism	BCA Bootstrap UCL	1764.440
Use 99% Chebyshev (Mean,	Sd) UCL	95% Chebyshev (Mean, Sd) UCL	2316.01
	No. of the other way of the other of the oth	97.5% Chebyshev (Mean, Sd) UCL	3100.536
		99% Chebyshev (Mean, Sd) UCL	4641.581
\$130000 \$1300 \$10 \$10 \$10 \$10 \$10 \$10 \$10 \$10 \$10 \$		30 /0 OTTEDYSTIEV (IMEGIT, OUT OOL	1.00

Data File   C:\Documents and Se	ttings\Admini	strator\De Variable: VOCs in Soil Sample	s 1 - 10 ft bg
n-Propylbenzene			
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	72	Lilliefors Test Statisitic	0.467126
Number of Unique Samples	40	Lilliefors 5% Critical Value	0.104416
Minimum ug/kg	1.85	Data not normal at 5% significance level	
Maximum ug/kg	8100	தாயாகளாயதையாக <u>ும் பாசங்காய்காயாகவாம்களாக நிலைகளும் க</u> ாயுள்கா <mark>கிகிய வுடைகாகத் சாயும் காயும் இன்ற</mark> ன்.	a a feet a suite a mineral a milyania (see
Mean	137.8285	95% UCL (Assuming Normal Distrib	ıtion\
Median	4.575	Student's-t UCL	324.9632
Standard Deviation	952.773	Olucelli o-1 OOL	1 024.000
Variance	907776.3	Gamma Distribution Test	
Coefficient of Variation			10.04000
	6.912744	A-D Test Statistic	12.34882
Skewness	8.452628	A-D 5% Critical Value	0.884359
		K-S Test Statistic	0.272909
Gamma Statistics		K-S 5% Critical Value	0.115147
k hat	0.257478	Data do not follow gamma distribution	
k star (bias corrected)	0.256009	at 5% significance level	
Theta hat	535.3013		
Theta star	538.3729	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	37.07688	Approximate Gamma UCL	212.0303
nu star	36.86534	Adjusted Gamma UCL	213.9285
Approx.Chi Square Value (.05)	23.964		
Adjusted Level of Significance	0.046667	Lognormal Distribution Test	e er er menure allem skanskar skan
Adjusted Chi Square Value	23.75136	Lilliefors Test Statisitic	0.249076
Adjusted Offi Oddale Value	20.70130	Lilliefors 5% Critical Value	0.104416
Locate and Chatlatian	-		
Log-transformed Statistics	0.045400	Data not lognormal at 5% significance lev	/el
Minimum of log data	0.615186	A PARTILIST AND A PARTICIPATION OF THE PARTICIPATIO	18 18 1
Maximum of log data	8.999619	95% UCLs (Assuming Lognormal Dist	the first and action and action
Mean of log data	2.180471	95% H-UCL	63.06516
Standard Deviation of log data	1.659876	95% Chebyshev (MVUE) UCL	74.22856
Variance of log data	2.755187	97.5% Chebyshev (MVUE) UCL	91.80462
	les sinces mark numeround	99% Chebyshev (MVUE) UCL	126.3294
		95% Non-parametric UCLs	<del> </del>
		CLT UCL	322.5215
		Adj-CLT UCL (Adjusted for skewness)	442.0383
		Mod-t UCL (Adjusted for skewness)	343.6054
		Jackknife UCL	324.9632
e unano somensia somensia mana ana ana ana ana ana ana ana ana a		Standard Bootstrap UCL	318.9126
DECOMMENDATION	With and Control in the Property of	Bootstrap-t UCL	3478.412
RECOMMENDATION	A#1	Hall's Bootstrap UCL	1691.075
Data are Non-parametric (0	.05)	Percentile Bootstrap UCL	362.0639
		BCA Bootstrap UCL	583.6229
Use 97.5% Chebyshev (Mean	, Sd) UCL	95% Chebyshev (Mean, Sd) UCL	627.2691
		97.5% Chebyshev (Mean, Sd) UCL	839.0504
		99% Chebyshev (Mean, Sd) UCL	1255.054
1			

Data File   C:\Documents and Se	ttings\Admin	istrator\De Variable: VOCs in Soil Samples	s 1 - 10 ft ba
tert-butyl alcohol (TBA)		inditatorize, variable.	1 10 11 29
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	25	Shapiro-Wilk Test Statisitic	0.216208
Number of Unique Samples	9	Shapiro-Wilk 5% Critical Value	0.918
Minimum ug/kg	9	Data not normal at 5% significance level	
Maximum ug/kg	1450	Data Hot Holling at 40 0 0 31gt in Carlot Holling Constitution	
Mean	69,54	95% UCL (Assuming Normal Distribu	ıtion)
Median	10	Student's-t UCL	167.9731
Standard Deviation	287.6676		107.5.701
Variance	82752.67	Gamma Distribution Test	
Coefficient of Variation	4.136722	A-D Test Statistic	8.41855
Skewness	4.130722	A-D Test Statistic  A-D 5% Critical Value	0.828636
IONGWIIC33	1 4.880878	K-S Test Statistic	0.496672
Gamma Statistics	50-141 au drour du récessar ab récess vi ra an ar récess	K-S 5% Critical Value	0.490072
k hat	0.40312	Data do not follow gamma distribution	1 0.160907
k star (bias corrected)	0.381412	The state of the s	
Theta hat	172.5045	at 5% significance level	nas for valodo di correali celi nalicado Aladi celi celi UNARISCA (-MARI-
Theta star	182.3224	059/ LICLA (Acquisition and Common Diotribut	ion)
Inu hat		95% UCLs (Assuming Gamma Distribut Approximate Gamma UCL	130.432
nu star	20.15599		apological consequents for the state of the free commentations of
Application of the section of the se	19.07061	Adjusted Gamma UCL	136.3697
Approx.Chi Square Value (.05)	10.16752		roera er lenera nem in learlaan narramnenna
Adjusted Level of Significance	0.0395	Lognormal Distribution Test	0.071000
Adjusted Chi Square Value	9.724818	Shapiro-Wilk Test Statisitic	0.371828
Loo han a farma a lotatiatia	T	Shapiro-Wilk 5% Critical Value	0.918
Log-transformed Statistics	2.197225	Data not lognormal at 5% significance lev	(e)
Minimum of log data	<del></del>	050/ 1101 - //	ile utie e
Maximum of log data Mean of log data	7.279319	95% UCLs (Assuming Lognormal Distr 95% H-UCL	38.93257
Standard Deviation of log data	2.611581		44.89106
	1.021438	95% Chebyshev (MVUE) UCL	erikan erenteria mela manamaran erenerangan eren
Variance of log data	1.043336	97.5% Chebyshev (MVUE) UCL	54.6799
		99% Chebyshev (MVUE) UCL	73.90817
An increase that the first state of the first state		95% Non-parametric UCLs	
He   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   1	to the second to enable them on the service or constraints	CLT UCL	164.1742
		Adj-CLT UCL (Adjusted for skewness)	225.6002
	-	Mod-t UCL (Adjusted for skewness)	177.5543
		Jackknife UCL	167.9731
New Address of the Control of the Co		Standard Bootstrap UCL	161.8733
		Bootstrap-t UCL	7928.217
RECOMMENDATION		Hall's Bootstrap UCL	6717.03
Data are Non-parametric (0	05)	Percentile Bootstrap UCL	184.04
Data ato 11011 parametro (0		BCA Bootstrap UCL	244.82
Use 99% Chebyshev (Mean, 9	3d) UCI	95% Chebyshev (Mean, Sd) UCL	320.3228
Joo oo /o Onobyonov (Ivican, e		97.5% Chebyshev (Mean, Sd) UCL	428.8368
4. 100000 1. 100000 1. 10000 1. 10000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 1000000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 1000000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 10000000 1. 1000000 1. 1000000 1. 1000000 1. 1000000 1. 1000000 1. 1000000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000 1. 100000		99% Chebyshev (Mean, Sd) UCL	641.9914
TO STATE TO STATE OF THE STATE		OC 70 OF IODYSTICS (MEAT), OUT OOL	0-71.001/4
			_1

Data File C:\Documents and Se	ettings\Admini	strator\De Variable: VOCs in Soil Sample:	s 1 - 10 ft bg
Tert-butylbenzene			
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	72	Lilliefors Test Statisitic	0.47129
Number of Unique Samples	. 17	Lilliefors 5% Critical Value	0.104416
Minimum   ug/kg	1.85	Data not normal at 5% significance level	
Maximum ug/kg	285	त्याची कर्तना क्रिक्ताच्याच्या को प्रस्ता के संबद्धिक का स्वत्यक का स्वत्यक क्षेत्रक क्ष्याच्या स्वत्यक क्ष्याच स्वत्याच्याच्याच्याच्याच्याच्याच्याच्याच्याच	
Mean	6.522222	95% UCL (Assuming Normal Distribu	ition)
Median	2.5	Student's-t UCL	13.06223
Standard Deviation	33.29762		
Variance	1108.732	Gamma Distribution Test	
Coefficient of Variation	5.105257	A-D Test Statistic	23.00475
Skewness	8.47247	A-D 5% Critical Value	0.799993
		K-S Test Statistic	0.501648
Gamma Statistics	winners allures must was bleed at the series	K-S 5% Critical Value	0.109829
k hat	0.67549	Data do not follow gamma distribution	
k star (bias corrected)	0.656604	at 5% significance level	
Theta hat	9.655537		
Theta star	9.933263	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	97.27062	Approximate Gamma UCL	8.433788
nu star	94.55101	Adjusted Gamma UCL	8.47829
Approx.Chi Square Value (.05)	73.12048		al-more than the second
Adjusted Level of Significance	0.046667	Lognormal Distribution Test	er terreflichte fan i mer mer mer mei see mei see me
Adjusted Chi Square Value	72.73668	Lilliefors Test Statisitic	0.4413
The second secon	a saluman ja mininkai mininka assan assan assan assan	Lilliefors 5% Critical Value	0.104416
Log-transformed Statistics	T	Data not lognormal at 5% significance lev	
Minimum of log data	0.615186	काक्ष्मायाक्ष्म सम्बाहरकाम मात्रका मात्रीयी न्यावस्थातास्य तारकारकामकामकामधानस्य सम्बन्धान स्ववत्य मात्रकामकाम सम्बन्धान	
Maximum of log data	5.652489	95% UCLs (Assuming Lognormal Distr	ibution)
Mean of log data	0.976048	95% H-UCL	3.699829
Standard Deviation of log data	0.617896	95% Chebyshev (MVUE) UCL	4.299554
Variance of log data	0.381795	97.5% Chebyshev (MVUE) UCL	4.774416
and the control of th		99% Chebyshev (MVUE) UCL	5.707191
		HILLIANIII. EKAANIIS TE TI, MAA TAMBAANIINE SIIII. MAAANIINIMAANIMANIINAANIA KAANTAANIINE TI TI TITTA TORTOOTET	mt.ministerioriam miscarioriam
		95% Non-parametric UCLs	Mariados em emercados medicades en obtendos
TO THE RESIDENCE OF THE PROPERTY OF THE PROPER	rite straftum affirmittel folklicher i Deski blevake i geste	CLT UCL	12.9769
		Adj-CLT UCL (Adjusted for skewness)	17.16359
	THE PROPERTY OF SHEET HERE AND THE PROPERTY OF	Mod-t UCL (Adjusted for skewness)	13.71527
		Jackknife UCL	13.06223
	THE RESIDENCE OF THE PROPERTY OF LANDING SECTION ASSESSMENT AS A SECTION ASSESSMENT AS A SECTION ASSESSMENT AS A SECTION ASSESSMENT AS A SECTION AS	Standard Bootstrap UCL	12.80541
Note of widows of the first training to the district Section Section (Construction) and interest to the construction of the co		Bootstrap-t UCL	201.7168
RECOMMENDATION	mukasimun na asia na mkuusen um as asia	Hall's Bootstrap UCL	131.5442
Data are Non-parametric (0	0.05)	Percentile Bootstrap UCL	14.32361
me man and man	Hid-Karlanform Hamman ammanaham	BCA Bootstrap UCL	18.40486
Use 95% Chebyshev (Mean,	Sd) UCI	95% Chebyshev (Mean, Sd) UCL	23.62725
	7	97.5% Chebyshev (Mean, Sd) UCL	31.02861
-		99% Chebyshev (Mean, Sd) UCL	45.56715
		00 % 01100701101 (1110011, 0017 001	10,000,10

Data File │C:\Documents and Se Tetrachloroethen (PCE)			s 1 - 10 ft b
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	72	Lilliefors Test Statisitic	0.430
Number of Unique Samples	31	Lilliefors 5% Critical Value	0.104410
Minimum ug/kg	1.85	Data not normal at 5% significance level	
Maximum ug/kg	35000	க வாகவை எல்லு வழிக்க வழு கடிபுக்கும். கடவரு நடிப்பு நாக் புரம்வு புரந்த பு மகிகிக்காமக்க வக்கமாக கள்ளாக கள்ளாக -	CARLO SUBLINE SUB-SECTION STORY
Mean	733.3625	95% UCL (Assuming Normal Distribu	ution)
Median	2.5	Student's-t UCL	1553.00
Standard Deviation	4173.105		
Variance	17414806	Gamma Distribution Test	namenta (mare mendado interior de 1911)
Coefficient of Variation	5.690371	A-D Test Statistic	15.2883
Skewness	8.033895	A-D 5% Critical Value	0.93289
VIII. TO THE TOTAL STATE OF THE		K-S Test Statistic	0.381228
Gamma Statistics		K-S 5% Critical Value	0.117472
k hat	0.172481	Data do not follow gamma distribution	ستعارب المستونية والمستونية والمس
k star (bias corrected)	0.174553	at 5% significance level	nninikimem/meinimmeniem
Theta hat	4251.848		Annie mante de la companya de la com
Theta star	4201.363	95% UCLs (Assuming Gamma Distribu	tion)
nu hat	24.83725	Approximate Gamma UCL	1252.81
nu star	25.1357	Adjusted Gamma UCL	1266.86
Approx.Chi Square Value (.05)	14.71375	Tudolog Galling Ook	1 1200.00
Adjusted Level of Significance	0.046667	Lognormal Distribution Test	
Adjusted Chi Square Value	14.55053	Lilliefors Test Statisitic	0.38471
POPULATION OF THE PROPERTY OF	17.00000	Lilliefors 5% Critical Value	0.104416
Log-transformed Statistics		Data not lognormal at 5% significance le	
Minimum of log data	0.615186		V G1
Maximum of log data	10.4631	95% UCLs (Assuming Lognormal Dist	ribution)
Mean of log data	2.232877	95% H-UCL	606.618
Standard Deviation of log data	2.454443	95% Chebyshev (MVUE) UCL	501.4004
Variance of log data	6.02429	97.5% Chebyshev (MVUE) UCL	647.843
TAITA 100 OF 109 BRIGA		99% Chebyshev (MVUE) UCL	935.504
NEW CONTROL CO		95% Non-parametric UCLs	**************************************
		CLT UCL	1542.3
the state of the s		Adj-CLT UCL (Adjusted for skewness)	2039.85
		Mod-t UCL (Adjusted for skewness)	1630.61
The second secon		Jackknife UCL	1553.00
		Standard Bootstrap UCL	1549.17
	· · · · · · · · · · · · · · · · · · ·	Bootstrap-1 UCL	5266.97
RECOMMENDATION	and with a section of a summarise section of the	Hall's Bootstrap UCL	4111.43
Data are Non-parametric (0	(05)	Percentile Bootstrap UCL	1668.39
Data 4.0 14011-Paratifier (0		BCA Bootstrap UCL	2350.14
Use 99% Chebyshev (Mean, s	3d) HCI	95% Chebyshev (Mean, Sd) UCL	2877.09
Osc os /s onebysnev (wear), v	JUL OOL	97.5% Chebyshev (Mean, Sd) UCL	3804.68
		99% Chebyshev (Mean, Sd) UCL	or section with relief rise the contraction of
		99% Unedystiev (Meatl, 50) UUL	5626.76

Data File C:\Documents and Se	suitys Multillis	strator\De Variable: VOCs in Soil Samples	, , - 10 11 Dg
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	72	Lilliefors Test Statisitic	0.480831
Number of Unique Samples	16	Lilliefors 5% Critical Value	0.104416
Minimum ug/kg	1.85	Data not normal at 5% significance level	- The second sec
Maximum ug/kg	285		rafammarana muaria ciacidistra
Mean	7.224306	95% UCL (Assuming Normal Distribu	tion)
Median	2.5	Student's-t UCL	13.83552
Standard Deviation	33.66017		VIII WALLE TO THE TOTAL THE TOTAL TO THE TOTAL THE TOTAL TO THE TOTAL THE TOTAL TO THE TOTAL TOT
Variance	1133.007	Gamma Distribution Test	
Coefficient of Variation	4.659295	A-D Test Statistic	23.23367
Skawness	8.160587	A-D 5% Critical Value	0.804192
		K-S Test Statistic	0.52433
Gamma Statistics		K-S 5% Critical Value	0.110154
k hat	0.632614	Data do not follow gamma distribution	
k star (bias corrected)	0.615514	at 5% significance level	
Theta hat	11.41977		
Theta star	11.73703	95% UCLs (Assuming Gamma Distributi	on)
nu hat	91.09638	Approximate Gamma UCL	9,42691
nu star	88.63403	Adjusted Gamma UCL	9.478442
Approx.Chi Square Value (.05)	67.92463		
Adjusted Level of Significance	0.046667	Lognormal Distribution Test	
Adjusted Chi Square Value	67.55533	Lilliefors Test Statisitic	0.467316
		Lilliefors 5% Critical Value	0.104416
Log-transformed Statistics		Data not lognormal at 5% significance lev	el
Minimum of log data	0.615186		
Maximum of log data	5.652489	95% UCLs (Assuming Lognorma) Distr	ibution)
Mean of log data	1.008279	95% H-UCL	4.226306
Standard Deviation of log data	0.7226	95% Chebyshev (MVUE) UCL	4.997663
Variance of log data	0.522151	97.5% Chebyshev (MVUE) UCL	5.627319
	***************************************	99% Chebyshev (MVUE) UCL	6.864155
		95% Non-parametric UCLs	reference has been been been been been been been bee
	THE PROPERTY OF THE PROPERTY O	CLT UCL	13.74926
4-1;		Adj-CLT UCL (Adjusted for skewness)	17.82574
	en e constituire anno management anno anno anno anno anno anno anno an	Mod-t UCL (Adjusted for skewness)	14.47137
de la decidad de professione de la constantina del constan		Jackknife UCL	13.83552
MINIMINENA PROBLEM SPANISH SPA		Standard Bootstrap UCL	13.84057
	-,	Bootstrap-t UCL	237.2982
RECOMMENDATION		Hall's Bootstrap UCL	120.1153
Data are Non-parametric (C	0.05)	Percentile Bootstrap UCL	14.77986
	MANAGEMENT OF THE PARTY OF THE	BCA Bootstrap UCL	18.91389
Use 95% Chebyshev (Mean,	Sd) UCI	95% Chebyshev (Mean, Sd) UCL	24,51558
Joseph Children,	71.00-	97.5% Chebyshev (Mean, Sd) UCL	31.99752
		99% Chebyshev (Mean, Sd) UCL	46,69436
		39 /9 OHEDYSHEV (MEXIL, 30) OOL	40,08430

Data File C:\Documents and Se	ttinas\Admini	strator\De(Variable: VOCs in Soil Samples	1 - 10 ft bg
Trans-1,2-dichloroethene			
Raw Statistics	An trem mary meters and fellabled tellad fell fellad fested	Normal Distribution Test	agaria ng aga-lashahar tarahafar tarahanni marah
Number of Valid Samples	72	Lilliefors Test Statisitic	0.339321
Number of Unique Samples	33	Lilliefors 5% Critical Value	0.104416
Minimum ug/kg	1.85	Data not normal at 5% significance level	
Maximum ug/kg	1100	กละอยานายานส (ปลาการสมาชาชา (ปลาการสามาชายานายานายานายานายานายานายานายานายานาย	Spit-Pilibrite India incondelanta controlina arrana.
Mean	79.40208	95% UCL (Assuming Normal Distribu	tion)
Median	2.5	Student's-t UCL	116.1663
Standard Deviation	187.1804		and Construction to Administration to the State of the Samuel West and the Samuel State of the Samuel Stat
Variance	35036.51	Gamma Distribution Test	HI II JUJANA AND AND AND AND AND AND AND AND AND
Coefficient of Variation	2.357374	A-D Test Statistic	10.08346
Skewness	3.720039	A-D 5% Critical Value	0.861319
The control of the second of t	And contituence destinates to common desertaments accompany	K-S Test Statistic	0.352782
Gamma Statistics		K-S 5% Critical Value	0.113924
k hat	0.31745	Data do not follow gamma distribution	
k star (bias corrected)	0.313482	at 5% significance level	an an armen razon sakérakhodi i (4414) engen (filme
Theta hat	250.1244		
Theta star	253.2903	95% UCLs (Assuming Gamma Distributi	on)
nu hat	45.71285	Approximate Gamma UCL	116.6525
nu star	45.14148	Adjusted Gamma UCL	117.582
Approx.Chi Square Value (.05)	30.72654		and the second s
Adjusted Level of Significance	0.046667	Lognormal Distribution Test	iririissa arasin irirraa aanaanaa aa
Adjusted Chi Square Value	30.48363	Lilliefors Test Statisitic	0.354372
manisti indiani innistra manistra proprintensi proprintensi proprintensi proprintensi proprintensi proprintensi		Lilliefors 5% Critical Value	0.104416
Log-transformed Statistics		Data not lognormal at 5% significance leve	ADAGE-SECONDARION NATIONAL WATER AND A SECONDARION NATIONAL WATER
Minimum of log data	0.615186	рания на применя на при	
Maximum of log data	7.003065	95% UCLs (Assuming Lognormal Distri	bution)
Mean of log data	2.222281	95% H-UCL	152.2237
Standard Deviation of log data	1.998666	95% Chebyshev (MVUE) UCL	161.6088
Variance of log data	3.994667	97.5% Chebyshev (MVUE) UCL	204.3042
	<u> </u>	99% Chebyshev (MVUE) UCL	288.171
and the second s		นายองประกอบ ของเบาร์ตเล่งของเขาระชื่อเปล่าวว่าจ่า Mittiligia ( ) ของเบาะเคาะเกรียนการออก มา คอกกระการแก่ ของเบ	The second section of the second seco
Section of the sectio		95% Non-parametric UCLs	AND THE PERSON AND ADDRESS OF THE PERSON
Мен (селейне селейне селейне (облек) (		CLT UCL	115.6866
		Adj-CLT UCL (Adjusted for skewness)	126.0203
and the second stress of the s		Mod-t UCL (Adjusted for skewness)	117.7782
		Jackknife UCL	116.1663
		Standard Bootstrap UCL	115.9955
		Bootstrap-t UCL	140.6428
RECOMMENDATION		Hall's Bootstrap UCL	154.2909
Data are Non-parametric (0.	.05)	Percentile Bootstrap UCL	116.6944
		BCA Bootstrap UCL	130.6965
Use 97.5% Chebyshev (Mean,	Sd) UCL	95% Chebyshev (Mean, Sd) UCL	175.5569
Personal properties and the second se	ne en e	97.5% Chebyshev (Mean, Sd) UCL	217.1631
		99% Chebyshev (Mean, Sd) UCL	298.8906
		The second secon	

Data File C:\Documents and Se	ttings\Admini	istrator\De Variable: VOCs in Soil Samples	1 10 ft ha
Trichloroethylene (TCE)	tungsvaamini I	istrator/Det variable. VOCs in Soil Samples	5 1 - 10 11 bg
		No	
Raw Statistics		Normal Distribution Test	+
Number of Valid Samples	72	Lilliefors Test Statisitic	0.433999
Number of Unique Samples	34	Lilliefors 5% Critical Value	0.104416
Minimum ug/kg	1.85	Data not normal at 5% significance level	
Maximum ug/kg	4600	NOOCODO (NOOCODO (NOOCODO) (NOOCODO (NOOCODO (NOOCODO (NOOCODO (NOOCODO (NOOCODO (NOOCODO) (NOOCODO (NOOCODO (NOOCODO (NOOCODO) (NOOCODO (NOOCODO) (NOOCODO (NOOCODO (NOOCODO) (NOOCODO (NOOCODO) (NOOCODO (NOOCODO) (NOOCODO) (NOOCODO (NOOCODO) (NOOCODO) (NOOCODO) (NOOCODO) (NOOCODO (NOOCODO) (NO	
Mean	203.1472	95% UCL (Assuming Normal Distribu	
Median	2.5	Student's-t UCL	344.9291
Standard Deviation	721.8648		
Variance	521088.8	Gamma Distribution Test	
Coefficient of Variation	3.553407	A-D Test Statistic	14.11869
Skewness	4.509176	A-D 5% Critical Value	0.898371
		K-S Test Statistic	0.343694
Gamma Statistics		K-S 5% Critical Value	0.115861
k hat	0.22582	Data do not follow gamma distribution	todos 1994 de Subardas Abrillas desdelares des erres estrandes en estrandes
k star (bias corrected)	0.22567	at 5% significance level	n men erren menrekalaktionken en itt skeid-idal/4949
Theta hat	899.5964		**************************************
Theta star	900.1941	95% UCLs (Assuming Gamma Distribut	ion)
nu hat	32.51814	Approximate Gamma UCL	322.5936
nu star	32.49655	Adjusted Gamma UCL	325.7018
Approx.Chi Square Value (.05)	20.46409	Adjusted Gaillina COL	1 020.7010
Adjusted Level of Significance	0.046667	Lognormal Distribution Test	
Adjusted Chi Square Value	20.2688	Lilliefors Test Statisitic	0.342085
Adjusted Oili Square Value	20.2000	Lilliefors 5% Critical Value	0.104416
Log-transformed Statistics	T		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Minimum of log data	0.615186	Data not lognormal at 5% significance lev	. EI
Maximum of log data		95% UCLs (Assuming Lognormal Distr	ibution\
	8.433812		der åt teterberettet teterberete er er er et er terbeser et er er
Mean of log data	2.116849	95% H-UCL	176.7519
Standard Deviation of log data	2.090822	95% Chebyshev (MVUE) UCL	180.3423
Variance of log data	4.371535	97.5% Chebyshev (MVUE) UCL	229.1427
Constitution of the south transfer that the south transfer transfer to the south transfer tra		99% Chebyshev (MVUE) UCL	325.0016
	····		
The state of the s	Name I of the second summer or second summer	95% Non-parametric UCLs	
		CLT UCL	343.0792
The state of the s	ļ	Adj-CLT UCL (Adjusted for skewness)	391.3852
1 STATE OF THE PROPERTY OF THE		Mod-t UCL (Adjusted for skewness)	352.4639
er not en tra proportificação de Hillardo e terraporta trasportação de Laborado do Arconologo do Arc		Jackknife UCL	344.9291
	1	Standard Bootstrap UCL	341.085
alither the contract of the first of the fir		Bootstrap-t UCL	504.5183
RECOMMENDATION		Hall's Bootstrap UCL	383.2273
Data are Non-parametric (0	.05)	Percentile Bootstrap UCL	350.7799
		BCA Bootstrap UCL	406.6347
Use 99% Chebyshev (Mean, S	3d) UCL	95% Chebyshev (Mean, Sd) UCL	573.97
		97.5% Chebyshev (Mean, Sd) UCL	734.4253
		99% Chebyshev (Mean, Sd) UCL	1049.609
ada u u u u u u u u u u u u u u u u u u		онны на водин от выпрадитивующих общений провод поторы по выправления по постоя выправления по подавления по по	

Data File   C:\Documents and Se	ettings\Admini	strator\De Variable: VOCs in Soil Samples	1 - 10 ft bo
Vinyl chloride			Mile Mile anne anne anne ann
Raw Statistics	<u> </u>	Normal Distribution Test	<u> </u>
Number of Valid Samples	72	Lilliefors Test Statisitic	0.441008
Number of Unique Samples	21	Lilliefors 5% Critical Value	0.104416
Minimum ug/kg	1.85	Data not normal at 5% significance level	1
Maximum ug/kg	2000		
Mean	42.96389	95% UCL (Assuming Normal Distribution	
Median	2.5	Student's-t UCL	89.95831
Standard Deviation	239.2662		billy building from himse mineron
Variance	57248.33	Gamma Distribution Test	···
Coefficient of Variation	5.569008	A-D Test Statistic	20.35367
Skewness	7.956244	A-D 5% Critical Value	0.870515
		K-S Test Statistic	0.49288
Gamma Statistics		K-S 5% Critical Value	0.114442
k hat	0.288755	Data do not follow gamma distribution	
k star (bias corrected)	0.285982	at 5% significance level	
Theta hat	148.7903		
Theta star	150,2326	95% UCLs (Assuming Gamma Distributi	on)
nu hat	41.58067	Approximate Gamma UCL	64.40547
nu star	41.18147	Adjusted Gamma UCL	64.94639
Approx.Chi Square Value (.05)	27.47152		m Transmission and control of control of the contro
Adjusted Level of Significance	0.046667	Lognormal Distribution Test	
Adjusted Chi Square Value	27.24272	Lilliefors Test Statisitic	0.458405
100 ж. н. 1 б. ж. н. 1 ж. ж. н. 1 ж. ж. н. 1 ж. ж. н. 1 ж. н. 1 ж. ж. ж. н. 1 ж. ж. Эмгерия	ar distance to the last of the section of the forms of the	Lilliefors 5% Critical Value	0.104416
Log-transformed Statistics		Data not lognormal at 5% significance leve	****
Minimum of log data	0.615186		MINATURE SECTION OF THE PROPERTY.
Maximum of log data	7.600902	95% UCLs (Assuming Lognormal Distri	ibution)
Mean of log data	1.357368	95% H-UCL	15.63708
Standard Deviation of log data	1.383432	95% Chebyshev (MVUE) UCL	19.13234
Variance of log data	1.913883	97.5% Chebyshev (MVUE) UCL	23,14139
	and secure in the second secure in the second secon	99% Chebyshev (MVUE) UCL	31.0164
ет и по в тене в петен обхуден в том на домника быльшим жими жими жуванир. Жил		நமாக நிற்றிரத் திருக்கு நக்கியின் சீயாக கூலிக்கிய கிறிக்கு விகியாக விறிக்கிய கூறிய கூறிய கூறிய கூறிய குறிய குற இது நக்கிய நக்கிய நக்கிய கூறிய க	
		95% Non-parametric UCLs	
		CLT UCL	89.34513
		Adj-CLT UCL (Adjusted for skewness)	117.5964
The annual section of the section of		Mod-t UCL (Adjusted for skewness)	94.36494
		Jackknife UCL	89.95831
		Standard Bootstrap UCL	89.97576
		Bootstrap-t UCL	274.950
RECOMMENDATION	ribili dure i Airbelle en elle un anthum mustera	Hall's Bootstrap UCL	252.5814
Data are Non-parametric (0	).05)	Percentile Bootstrap UCL	96.33333
		BCA Bootstrap UCL	128.871
Use 97.5% Chebyshev (Mear	, Sd) UCL	95% Chebyshev (Mean, Sd) UCL	165.8752
and the second s		97.5% Chebyshev (Mean, Sd) UCL	219.0591
	man distribution of the second beautiful and	99% Chebyshev (Mean, Sd) UCL	323.5284
HISTORIAN CONTRACTOR OF THE CO		And the state of t	App. Auto State Sandan

Data File C:\Documents and Se	ettinas\Admini:	strator\De Variable: TPH in Soil Samples	> = 1 - 10 ft l
C6-C10			
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	139	Lilliefors Test Statisitic	0.396495
Number of Unique Samples	48	Lilliefors 5% Critical Value	0.07515
Minimum mg/kg	0.5	Data not normal at 5% significance level	
Maximum mg/kg	1700	मकरामा जन्म मानाम क्षाराक का के तिवसकार को को को जा का किया के कार्य के कार्य के सिक्त का एक को अंगामन वा करके वा कार्य	er all glover all trains to an extra broad and an extra section and
Mean	52.9554	95% UCL (Assuming Normal Distrib	ıtion)
Median	2.5	Student's-t UCL	81.03039
Standard Deviation	199.8824		
Variance	39952.98	Gamma Distribution Test	e artituta eriterite britterie akteur (constati
Coefficient of Variation	3.774543	A-D Test Statistic	16.51211
Skewness	6.156948	A-D 5% Critical Value	0.885924
	looks to make manion in make a management	K-S Test Statistic	0.300347
Gamma Statistics		K-S 5% Critical Value	0.086872
k hat	0.260515	Data do not follow gamma distribution	
k star (bias corrected)	0.259689	at 5% significance level	a sum of seminaring configuration
Theta hat	203.2718	at 0 70 signification level	
Theta star	203.9188	95% UCLs (Assuming Gamma Distribut	ioni
nu hat	72.42322	Approximate Gamma UCL	71.29105
nu star	72.19346	Adjusted Gamma UCL	71.51363
Approx.Chi Square Value (.05)	53.62571	Adjusted Callilla COL	171.01000
Adjusted Level of Significance	0.048273	Lognormal Distribution Test	is destruction in the state to the delivery of
Adjusted Chi Square Value	53.4588	Lilliefors Test Statisitic	0.203343
Adjusted On Square Value	33,4500		0.203343
Log transformed Statistics		Lilliefors 5% Critical Value	
Log-transformed Statistics	-0.693147	Data not lognormal at 5% significance lev	/61
Minimum of log data  Maximum of log data	7.438384	OSS/ LICLA (Assuming Lawrence Diet	elle mile en l
Mean of log data		95% UCLs (Assuming Lognormal Distr	Contract of the Contract of th
Standard Deviation of log data	1.26106	95% H-UCL	60.75296
	2.116782	95% Chebyshev (MVUE) UCL	72.5782
Variance of log data	4.480768	97.5% Chebyshev (MVUE) UCL	90.33373
eligiban Angeletiah — estremationes suestanamente musica anamana anamana suestanamente de la constitución de l	hudaine scaineannachaine scaine	99% Chebyshev (MVUE) UCL	125.211
1		95% Non-parametric UCLs	*************************
The second secon		CLT UCL	80.84192
		Adj-CLT UCL (Adjusted for skewness)	90.30224
		Mod-t UCL (Adjusted for skewness)	82.50601
		Jackknife UCL	81.03039
The state of the s	THE RESIDENCE OF THE PROPERTY	യത്ത് അവന്ത്രത്ത് അവര് അവര് അത്രത്ത് അത്രയാഗത്ത് വാര്യത്ത് വാര്യത്ത് വാര്യത്ത് വാര്യത്ത് വാധത്ത് വാര്യത്ത് വാധ	
- I and the last of the Mindred and the part of the first		Standard Bootstrap UCL	81.65609 106.2925
DECOMMENDATION		Bootstrap-t UCL	regimin williamina miraliam
RECOMMENDATION	) OE'	Hall's Bootstrap UCL	112.0093
Data are Non-parametric ((	J.UO)	Percentile Bootstrap UCL	83.15324
11 000/ 05	0.17.17.01	BCA Bootstrap UCL	95.24317
Use 99% Chebyshev (Mean,	Sa) UCL	95% Chebyshev (Mean, Sd) UCL	126.8553
		97.5% Chebyshev (Mean, Sd) UCL	158.8319
		99% Chebyshev (Mean, Sd) UCL	221.6436

#### General Statistics

Data File C:\Documents and Se	ttinas\Admini	strator\De Variable: TPH in Soil Samples	> = 1 - 10 ft
C10-C18			
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	185	Lilliefors Test Statisitic	0.315462
Number of Unique Samples	84	Lilliefors 5% Critical Value	0.06514
Minimum mg/kg	0.5	Data not normal at 5% significance level	,
Maximum mg/kg	910		
Mean	75.94919	95% UCL (Assuming Normal Distribu	ıtion)
Median	5	Student's-t UCL	95,03717
Standard Deviation	157.0459	vide i Michigan (1814) - ste i feligi ja jajan jaja pipan java ja pan jajan ja pan jajan ja pan jajan ja pan ja	164 - 140 miles and miles a miles and miles an
Variance	24663.4	Gamma Distribution Test	
Coefficient of Variation	2.067775	A-D Test Statistic	10.81312
Skewness	3.192988	A-D 5% Critical Value	0.873134
annum dennum mystur pana pana pana papapapapapapapapapapapa		K-S Test Statistic	0.198078
Gamma Statistics	e y 100 100 100 100 1 100 100 100 000 000	K-S 5% Critical Value	0.073459
k hat	0.290672	Data do not follow gamma distribution	an ex exeme armedienes en en errena en es estado
k star (bias corrected)	0.289562	at 5% significance level	
Theta hat	261.2883	уу дамандан (Марија (Марија) (Страмина) од	of 160 to the Period I to the principal late to conserve the conserve terms to com-
Theta star	262.2899	95% UCLs (Assuming Gamma Distribut	
nu hat	107.5486	Approximate Gamma UCL	96.58749
nu star	107.1379	Adjusted Gamma UCL	96.76932
Approx.Chi Square Value (.05)	84.24527		40 MAI 47 To Chair I day in their I Palablance (Marchelles arms inse
Adjusted Level of Significance	0.048703	Lognormal Distribution Test	
Adjusted Chi Square Value	84.08698	Lilliefors Test Statisitic	0.231596
		Lilliefors 5% Critical Value	0.06514
Log-transformed Statistics		Data not lognormal at 5% significance lev	'el
Minimum of log data	-0.693147		
Maximum of log data	6.813445	95% UCLs (Assuming Lognormal Distr	
Mean of log data	1.945497	95% H-UCL	329.7207
Standard Deviation of log data	2.5122	95% Chebyshev (MVUE) UCL	383.231
Variance of log data	6.311151	97.5% Chebyshev (MVUE) UCL	482,6639
	***************************************	99% Chebyshev (MVUE) UCL	677.9805
# 97 97 9 1 10 90 10 10 10 10 10 10 10 10 10 10 10 10 10		95% Non-parametric UCLs	therefore and demonstrately we consider the contract of the co
Martin III III in the California I III in the California I I I I I I I I I I I I I I I I I I I	d bil bil jölü selvek jeri les saveri sal selvekki kassal Pérkudbi bil ör		04 04106
		CLT UCL Adj-CLT UCL (Adjusted for skewness)	94.94106 97.83729
- Marie III restora () in the property of the second control of th		Mod-t UCL (Adjusted for skewness)	95.48892
**************************************		Jackknife UCL	95.48692
THE OWNER OF THE OWNER OWNER OF THE OWNER OWN		Standard Bootstrap UCL	94.78372
	<b>-</b>	Bootstrap-t UCL	98,65512
RECOMMENDATION		Hall's Bootstrap UCL	98.05512
Data are Non-parametric (0	75)	Percentile Bootstrap UCL	95.21135
Data are INOT-parametric (U	.001	BCA Bootstrap UCL	97.76486
Use 99% Chebyshev (Mean, S	34) FIGI	95% Chebyshev (Mean, Sd) UCL	126.2781
Coe 30 /6 Onebysnev (Wedn, S	1,005	97.5% Chebyshev (Mean, Sd) UCL	148.0554
capital processing of the second specimens of the control of the second specimens of the second specim	•	99% Chebyshev (Mean, Sd) UCL	190.8328
Marie III reparati terreparati peratuan	<b>-</b>	99 % Offenysties (Mearl, 947 OOL	100.0020
			1

#### General Statistics

Data File C:\Documents and Se	ttinaal Aalmin	nistrator\De: Variable: TPH in Soil Samples	1 10 #1
Account Assessment of the second contract of	ttings\Aamin	listrator/Det variable: IPH in Soil Samples :	> = 1 - 10 IU
C18-C40		and a section to the section of the	
Raw Statistics		Normal Distribution Test	
Number of Valid Samples	205	Lilliefors Test Statisitic	0.343209
Number of Unique Samples	109	Lilliefors 5% Critical Value	0.061881
Minimum mg/kg	0.5	Data not normal at 5% significance level	and the control of the property of the property of the control of
Maximum mg/kg	4200		
Mean	198.4463	95% UCL (Assuming Normal Distribu	tion)
Median	19	Student's-t UCL	255.0301
Standard Deviation	490.3032		
Variance	240397.2	Gamma Distribution Test	
Coefficient of Variation	2.470709	A-D Test Statistic	7.427288
Skewness	4.911653	A-D 5% Critical Value	0.880048
		K-S Test Statistic	0.14906
Gamma Statistics		K-S 5% Critical Value	0.068828
lk hat	0.276039	Data do not follow gamma distribution	0.000020
k star (bias corrected)	0.275252	at 5% significance level	
And the second s		at 5% significance level	
Theta hat	718.9059	0.50/.1101/A	
Theta star	720.9629	95% UCLs (Assuming Gamma Distributi	
nu hat	113.1762	Approximate Gamma UCL	250.7165
nu star	112.8532	Adjusted Gamma UCL	251.1301
Approx.Chi Square Value (.05)	89.32526	ант шешт з винить венецијум и двругим вененим вененим вененим вененим вененим вененим пиме дугова положеним вененим ве	te to part occupient and company of the period by the period of the peri
Adjusted Level of Significance	0.048829	Lognormal Distribution Test	
Adjusted Chi Square Value	89.17814	Lilliefors Test Statisitic	0.150208
	#6000T##5.#0##1##0############################	Lilliefors 5% Critical Value	0.061881
Log-transformed Statistics		Data not lognormal at 5% significance lev	el
Minimum of log data	-0.693147		
Maximum of log data	8.34284	95% UCLs (Assuming Lognormal Distri	ibution)
Mean of log data	2.758341	95% H-UCL	1183.869
Standard Deviation of log data	2.676131	95% Chebyshev (MVUE) UCL	1354.934
Variance of log data	7.161675	97.5% Chebyshev (MVUE) UCL	1714.202
		99% Chebyshev (MVUE) UCL	2419.912
apagity, as particularism acts, acts, manerical cardenic menterical manerical manerical manerical and resident and fall fall for	TATAMENTO AND DESIGNATION OF THE STATE OF TH	ou the tribetair main main inna nead funation aintennalaidh ar bhirtheath i bhirthean na main mar na mar an am Ta tha ta tha an ta tha ta	
Plant AND To AND	T	95% Non-parametric UCLs	
		CLT UCL	254.7731
		Adj-CLT UCL (Adjusted for skewness)	267.3253
		Mod-t UCL (Adjusted for skewness)	256.988
esta trajecia interca interca anti mista. Amenin interca interca anti anti anti anti anti anti anti ant	er et na saa hal eskenha en et l'enrea ha na breist like Na de	Jackknife UCL	255.0301
		Standard Bootstrap UCL	253.8203
		Bootstrap-t UCL	269.6021
RECOMMENDATION		Hall's Bootstrap UCL	274.0111
Data are Non-parametric (0	.05)	Percentile Bootstrap UCL	255.5663
		BCA Bootstrap UCL	267.3298
Use 99% Chebyshev (Mean, S	Ŗd) UCL	95% Chebyshev (Mean, Sd) UCL	347.7136
		97.5% Chebyshev (Mean, Sd) UCL	412.3017
		99% Chebyshev (Mean, Sd) UCL	539.1724
			The second secon

Appendix B Well Permit

_> 	NEW WELL CO. RECONSTRUCT DECOMMISSIO. OTHER:	YON OR RENC	VATION	CAT	NITORING HODIC CCTION RACTION		HEAT EXCHANGE OTHER (Specify):	
ION	SITE ADDRESS 96	36 Ann S	<b>s</b> +	city San	ha fe Spriho	s , CA	ZIP CODE 9067	0
WELL LOCATION	Township J.02	5	Range R. U	W	Section 3	2	Map Book Page/ Grid The: 125	ade 43
WEI	NO. OF WELLS IN	EACH PARCE	ı. 5	A	ttach site map with	well locations	see attached pages (3)	
	Type and Size of Production Casing	PVC SC	hedule 40, 2'	diamoter	Company	Worley	Parsons Komex	10.5
STRUCTURE	Sanitary / Annular		fill i cement growt		Contact Person		<u>Callendar</u>	Consult A
STRU	Sealing Material	Ben	donite		Address		Geralen Grove Blud, 2nd	( floer \$
WELL	Depth of Sanitary / Annular Seal	MAN	0-34H		City, State Zip		WHER, CA 92683-820	
(*)	Conductor Casing		ble seal; a by	dvated	Talephone	1714-3	79-1157	
	Well Owner	• /	solniek	e chips	FOUND TO DIF	FER FROM THE SO	ITIONS ENCOUNTERED IN THE FIELD COPE OF WORK PRESENTED TO THI IAY BE REQUIRED	
TON	Address		ersonal Pri	vacy			(4.2)	
OWNER/BRILLER INFORMATION	City / Zip Code					S CONSIDERED C	F PERMIT ( Department Use Only) OMPLETE WHEN THE WORK PLAN I LL COMPLETION LOG IS RECEIVED.	
K INEC	Telephone				CONSTRUCTIO	N OR DECOMMIS	SIONING CAN BE INITIATED WITHOUTHS DEPARTMENT.	
RILLE	Well Driller	BCZ	(Sam Walker			dental a di 1916 e	ik plan approval	
ER/D	Address	1212 E	ust Ash			This App	Poval is Valid for 180 Days	
OWN	City / Zip Code	Fullerge	n, 4 929	31	Date 1 22	B REHS		
	C-37 License No.	68 67			Conditions			
	Telephone	714-44	19-2990		MANKT	Aur Au	APALLABUT	
	Well Depth log / records				SET B	sacks		
(LNG	Method of Well Assessment	-						
IMESTO:	Depth and Number of Perforations							
WELL DECOMMISSIONING	Type of Perforator Size of Perforations							
WEL	Type and Amount of Scalant							70.00
	Method of Upper Seal Pressure Application							
Con the con wel Hea	inty Environmental F County of Los Angelestruction, reconstruction, and within thirty dated the office with a com-	lealth Division a es and the State tion and decomn ys thereafter, I v pletion log of the casing, and any	t with all the regulations and with all ordinances a of California pertaining nissioning. Upon comple will furnish the Environe well giving date drilled other data deemed neces	nd laws of to well tion of the mental , depth of the	Date The well log m	REHS	NAL INSPECTION PERMIT ISSUED This Department prior to issuance of the fire	nal approval
Арр	licant Name: (PRINT)	Applicant's	Signature		Date	REMS		

Appendix C Borehole Logs

### Key to Log of Borehole / Well

APC

¥ KI	OMEX	<u> </u>			<b>7</b>	9636 Ann Street, San Project No. H	ita Fe Springs, 0	CA
Depth, feet	Sample Number (m = retained) Sample Type	Recovery, feet	Edd Gla	6 Graphic Log	USCS Soil Classification	Geologic Description		Weil Diagram
1	2 3	4	5 6	7		9		10
3 4 5	Sample Num associated w column Indica possible cher Sample Type shown; samp Recovery; expressed in	ber: Sith a datating the mical or Type ler sym  Amou feet.	et below the gr sample identification of a si portion of a si physical (soil e of sample co abols are explaint of material in on detector (Pil million.	cation nutrie right ample repropertie lected at ned belo accovered	mber; side of the stained for s) testing depth int w.	e 7 Graphic Log: encountered; t  B USCS Soll Cla (USCS) group be generalized er, 9 Geologic Dest addition to soll size, moisture, percentage of  10 Well Diagram:	e by driller or Komex's f Graphic depiction of s typical symbols are expl ssification: Unified So symbol for indicated sti d across minor layers ar cription: Description of classification, may incl , relative density or cons soil components.	ubsurface material ained below.  Il Classification System ratum; group symbol may id lenses, finaterial encountered; in ude color, plasticity, grain sistency, and approximate well construction; text to
I	YPICAL SOIL. Poorly Grad		1000		ll-Graded	SAND (SW) Gravelly SA	ND (SP)	Silfy SAND (SM)
	Lean CLAY	(CL)		SIH	¢ ÇLAY (C	L) Clayey SILT	(ML)	Clayey SAND (SC)
	SILT (ML)		7 2 2 3 3	San	dy SILT (	GRAVEL (G	P/GW)	Concrete
I	YPICAL WEL	L GRA	PHIC SYMBO	LS		TYPICAL SAME	PLER GRAPHIC SYM	BOLS
	Blank casin	g in cor	ncrete	Bla	nk casing		x 18-inch or d split spoon	3-inch-OD x 18-inch or 24-inch lined split spoon
NI NI	Biank casin grout	g In Vol	Iclay	Slot san	ted casing d	g in filter Geoprobe co	ontinuous soil core	Grab sample from cuttings
<u>c</u>	Blank casin bentonite cl	g in hyd nips	drated	Slo	ugh / flow	ng sands		
<u>c</u>	THER GRAP	HIC SY	MBOLS			GENERAL NOTES		

- First water encountered at time of drilling and sampling
- Static water level measured in well on specified date
- Change in material properties (e.g., color) within a lithologic stratum
- Inferred or unobserved contact between soil strata or gradational change in lithology
- Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive; actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
- Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

WELL KEY TIME APCSANFE.GPU KO

#### APC

9636 Ann Street, Santa Fe Springs, CA Project No. H0287C090

Borehole/Well Location: Refer to site map Date(s) Drilled Hollow-Stem Auger (using limited access rig equipped with 8-inch-OD auger) Elevation of **Drilling Method:** 147.36 feet MSL. TOC: 146,93 feet MSL Ground Surface: Drilling Contractor: BC2 Environmental Initial Water Level: 35 feet bgs 2.5-Inch-OD split-spoon (stainless steel sleeves) Static Water Level: 34.33 feet btoc (elevation 112.60 feet MSL) Geologist: L. Paprocki Reviewer: M. Ausburn Total Depth: 45 feet Well Depth: 43 feet feet USCS Soil Classification feet Sample Type Graphic Log Recovery, Depth, f PID, ppm Well Diagram Remarks Geologic Description Sample Number Flush-mount traffic-rated welf box Start barehole at 9:20. Hand auger to 5 ft (logged from cuttings). Concrete 4 inches thick ML SILT, grey to brown, moist, trace of sand 8-irich-dia, borehole 5 1,2 19.2 Sample at 9:35. MW1-4506 -1-5 2-inch-dia, Sch. 40 PVC blank casing (0.4-33 ft) 10 Bocomes gray, slightly molet, with trace of clay, MW1-4506 Sample at 9:40. Voiday grout (0-28 ft) 15 SM Silty SAND, gray, moist, fine sand MW1-4506 -3-15 Sample at 9:45. Increasing silt with depth 20 20-SAND, gray, moist, poorly graded fine sand, micaceous, possible hydrocarbon odor SP No lab sample. 240 LOG APCSANFE, GPJ KO WELL, GDT 5/10/06 25 25 Gravelly SAND, gray, slightly moist, poorly graded medium to coarse sand, subangular gravel up to 1-1/2 inches SP MW1-4506 -4-25 Sample at 9:55. Hydrated benionite chips (28-31 ft) 30 WELL Sheet 1 of 2

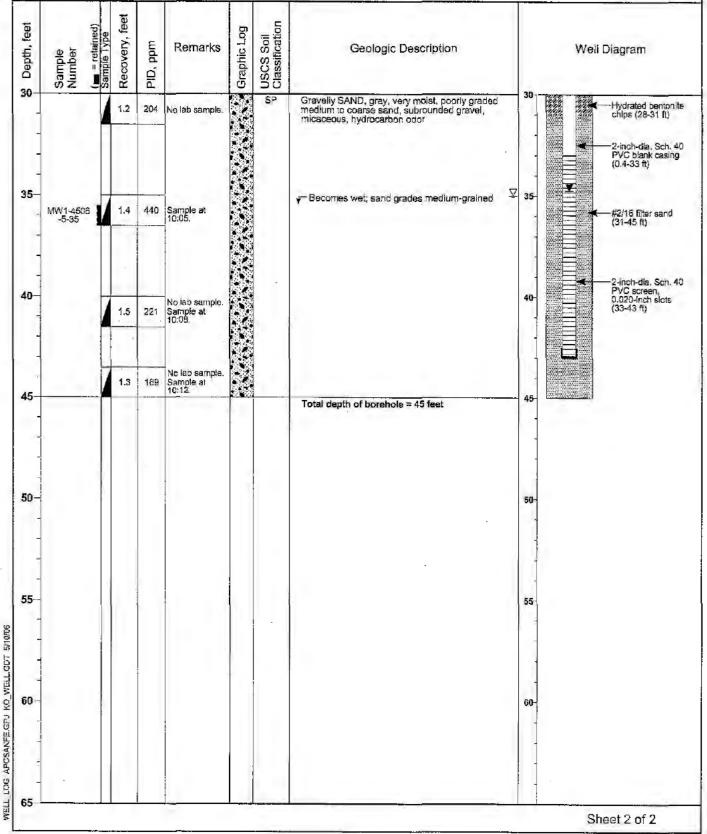
# KOMEX

#### Log of Borehole / Well MW-1

APC

9636 Ann Street, Santa Fe Springs, CA

Project No. H0287C090



# (I)

## Log of Borehole / Well MW-2

#### APC

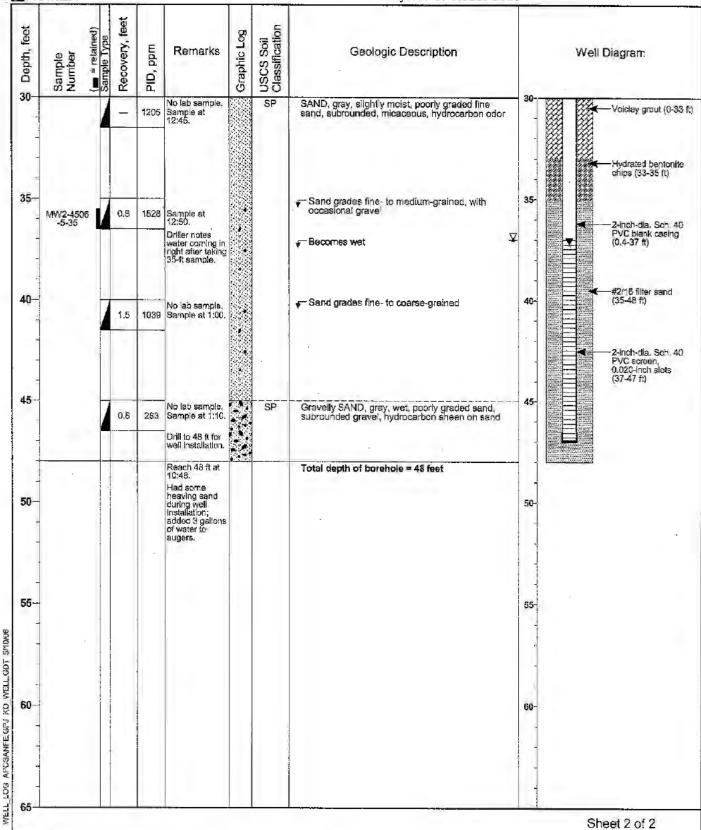
9636 Ann Street, Santa Fe Springs, CA Project No. H0287C090

	s) Drilled	4/5/06						Project No. H0287C0	er to site map
1110		Holloy	v-Sten	n Auger (usin ith 8-inch-OD	g limi auge	ted acce	ess rig	Elevation of Ground Surface: 149,79 feet MS	SL TOC: 149.41 feet MSL
rillin	g Contractor:	BC2 E	nyiror	mental	uuq.	· -		Initial Water Level: 37 feet bgs	š
	ling Method:				stainl	ess stee	el sleeves)	Static Water Level: 36.87 feet I	btoc (elevation 112.54 feet MSL)
3eolo	gist: L. Papr	ocki		Reviews	er: N	, Ausbu	ırn	Total Depth; 48 feet	Well Depth: 47 feet
Depth, feet	Sample Number (= = retained)	Recovery, feet	PID, ppm	Remarks	Graphic Log	USCS Soil Classification		Geologic Description	Well Diagram Flush-mount traffic-rated well bo
-				Hand auger to 5 ft (logged from cuttings).		ML		inches thick F, gray to brown, moist, soft, medium ace of sand	≪8-inch-dia. borehole
5-	MW2-4506 -1-5	1.2	6.8	Sample at 12:00.	22	ML	SILT, gray,	moist, low plasticity, trace of sand	2-inch-dia, Sch. 40 PVC blank casing (0.4-S7 ft)
10-	MW2,4506 -2-10	1.3	2.9	Sample at 12:05.		ML	Sandy SIL1 low plasticit	, brown and gray, slightly moist, very y	10- Volclay grout (0-33
15 -	MW2-4506 -3-15	1.3	242	Sample at 12:10.		ML	SILT, gray, sand and c	slightly moist, low plesticity, trace of ay	15-
20- -		1.5	246	No lab sample. Sample at 12:15.		ML	Sandy SIL plasticity	, gray, slightly moist, very low	20-
25	MW2-4506 -4-25	0.8	946	Sample at 12:20.		SP	SAND, gra micaceous	y, molst, poorly graded fine sand,	25-
30-								Man	

# O KOMEY

#### Log of Borehole / Well MW-2

APC 9636 Ann Street, Santa Fe Springs, CA Project No. H0287C090



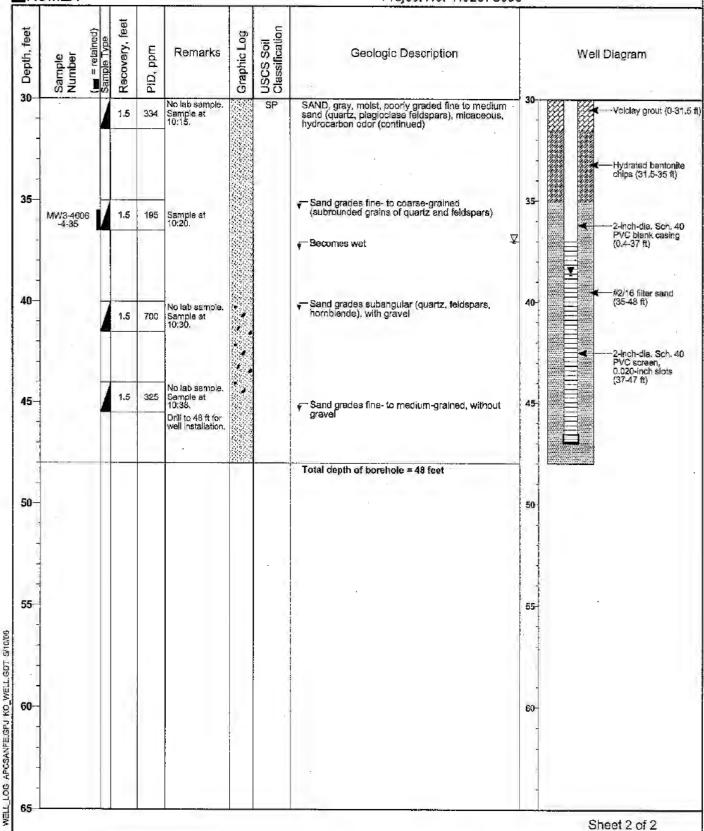


## APC

9636 Ann Street, Santa Fe Springs, CA

	S) Drilled	4/6/06						Approx 2 (a)	_	te map	
	g Method:	Hollow	-Sten	n Auger (using ith 8-inch-OD a	limit uget	ed acce	ess rig	Elevation of Ground Surface: 151.06 feet MS	L 7	OC: 15	0.67 feet MSL
Orillin	g Contractor:	BC <sup>2</sup> Er	viror	mental				Initial Water Level: 37 feet bgs			
Samp	ling Method:	2.5-Inc	h-OD	split-spoon (st	talni	ess stee	el sleeves)	Static Water Level: 38.20 feet bi	toc (el	levation 1	112.47 feet MSL)
Geolo	gist: L. Papre	ocki		Reviewer	N	l. Ausbu	ırn	Total Depth: 48 feet	We	I Depth:	47 feet
Depth, feet	Sample Number  = retained Sample Type	Recovery, feet	PID, ppm		Graphic Log	USCS Soil Classification		Geologic Description		V	Vell Diagram Flush-mount traffic-rated well box
				Hand auger to 5 ft (logged from cuttings).		ML	Concrete 4 i Sandy SILT, micaceous	nches thick brown, moist, low plasticity,			₹ 8-inch-dia, borehole
5-	MW3-4606	1.3	396	Sample at 9:15.			Becomes odor	gray, with trace of clay, hydrocarbon tragment	5-		• 2-inch-dia, Sch. 40 PVC blank casing (0.4-37 ft)
10⊷		0,2	1.3	No lab sample. Sample et 9:30. Little sample for headspace reading.					10-		<b>⋖</b> —Voldey grout (0-31,5
15-	MW3-4606 -2-15	0,2	4.7	Sample at 9:40. Not enough sample for metals lest. Resample at 16:5 ft and 18 ft; minimal recovery. Combine with			Becomes possible o recovery	brown, with hard allty clay nodules; oncrete pieces causing low sample	15-		
20-				sample at 22 ft.		ML	SILT with cl of sand, mid	ay, brown, moist, low plasticity, trace accous, slight hydrocarbon oddr	20-		
	MW3-4606 -2-22	1.5	432	Sample at 10:05.	1						
<b>25</b> -	MW3-4606 -3-25	1.5	177	Sample at 10:10.		SP	SAND, gray sand (quart hydrocarbor	, moist, poorly graded fine to medium z, plagioclase feldspars), micaceous, n odor	25		
30-	and the second second								,		

APC 9636 Ann Street, Santa Fe Springs, CA Project No. H0287C090



### APC

9636 Ann Street, Santa Fe Springs, CA Project No. H0287C090

Orillin			v-Ster ped w	n Auger (using lith 8-inch-OD au	limited iger)	acce	ss rig	Elevation of Ground Surface: 151.13 feet		TOC:	150.77 feet MSL
	ng Contractor:		_					Initial Water Level: 38 feet I			
			ch-OD	split-spoon (st					-	,	112.41 feet MSL)
Seok	ogist: L. Papr	ocki	_	Reviewer:	M. A	usbu	rn	Total Depth: 48 feet	1	Well Depth	. 47 feet
Depth, feet	Sample Number  = retained Sample Vive	Recovery, feet	PID, ppm		Graphic Log	Classification		Geologic Description		0-	Well Diagram  Flush-mount traffic-rated well box
-	,			Hand auger to 5 ft (logged from cuttings).			Concrete w	ith 1-1/2-inch rebar			3 4—8-inch-dia. borehole
5	ı.	1.5	139	No lab sample. Sample at 1:10.		ИL	Clayey SiLT conditions),	T, gray, wet (due to surface medium plasticity, trace of sand		5-	2-inch-dia, Sch. 40 PVC blank casing (0.4-37 ft)
10	MW4-4506 -1-10	0.8	89.3	Sample at 1:20.		МL	Sandy SILT concrete fra	, brown, moist, trace of gravel-size agments		10-	(U.4-57 II)
15	MW4-4606	1.3	240	Sample at 1:25.	J	ML -	SILT, brown odor	n, slightly moist, stiff, hydrocarbon		15	
20- -		1.2	323	No lab sample. Sample at 1:30.		SM	Slity SAND	, gray, moist, micaceous		20-	
25-	MW4-4606 -3-25	1.0	287	Sample at 1:37.		SP	SAND, gra micaceous	y, moist, poorly graded fine sand,		25-	
30-							<b>ç</b> − Becomes	slightly moist			

# **IK**

#### Log of Borehole / Well MW-4

#### APC

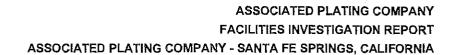
9636 Ann Street, Santa Fe Springs, CA

Project No. H0287C090 Recovery, feet USCS Soil Classification (= = retained) Sample Type feet Graphic Log PID, ppm Depth, Well Diagram Remarks Geologic Description Sample Number 30 SAND, gray, slightly moist, poorly graded fine sand, micaceous (continued) No lab sample. Sample at 1:45. SP Voidlay grout (0-33 ft) 1.3 836 -Hydrated bentonite chips (33-35 ft) 35 35 Gravelly SAND, gray, moist, subrounded gravel up to 1 inch in length, hydrocarbon odor SP MW4-4606 -4-35 234 Sample at 1:55. 2-inch-dia, Sch. 40 PVC blank casing (0,4-37 ft) Driller notes water at 38 ft.  $\nabla$ → Becomes wet #2/16 filter sand (35-48 ft) 40-No lab sample. Sample at 2:03. 525 -2-inch-dia, Sch. 40 PVC screen, 0.020-inch slots (37-47 ft) SAND, gray, wet, poorly graded fine sand, trace of gravel, micaceous, hydrocarbon odor SP 45 No lab sample. Sample at 2:15. 1.5 600 Total depth of borehole = 48 feet 50 50 55 55 WELL LOG APCSANFE, GPJ KO WELL, GDT S110/06 60 60 65 Sheet 2 of 2

## Log of Borehole B-49

APC 9636 Ann Street, Santa Fe Springs, CA Project No. H0287C090

	Contractor. EST		-11	re (2 feet x 1 inch OD)			Initial Water Level: Not encountered  Borehole Backfili: Hydrated granular bentonite #8	
	gist: L. Paprocki	obe s		Reviewer: M. Ausbur			Total Borehole Depth: 7 feet	_
ECIO	gist: L. Papilocki			Reviewer. M. Ausbur	1		Total Bolelios Deptil. Tiest	_
o Depuii, leet	Sample Number (== = retained) Sample Type	Recovery, feet	PID, ppm	Remarks	Graphic Log	USCS Soil Classification	Geologic Description	
~							Concrete	
1-	B49-41706-1-1	1.2	3.5	Collect sample at 9:55.		ML	SILT with sand, brown, moist, low plasticity, fine sand, micaceous	
2-		2		•		ML	Clayey SILT with sand, brown, moist, medium plasticity, fine sand,	
1							micaceous	
3-		1.7	3.8	*				
	B49-41706-2-4			Collect sample at 10:05.				
5								
						ML	SILT, brown, moist, low plastfeity, trace of clay and sand, micaceous	
6-		1.9	1.8					
-	B49-41706-3-7			Collect sample at 10:12.				
7-					+++		Total depth of borshole = 7 feet	1
8								1
-								
9								
-	* 1							
0-								1
1-					É		a * *	
-								
2								Ì
4								
3-								
4								
								1



Appendix D	Well Deve	lopment and	Sampling	<b>Forms</b>
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H0287C : Rev A : 15 June 2006

		6 + 2	<u>C</u>			DAT	ГЕ;	4/10/	96	8.8	5 54
		PC		1		DAY		s' M T	W T F		
		NS/WEATH	ier: <u>Clove</u>	y with	SUM SUN		JECT NA		10		
	OTHER:					PRO	JECT / TA	SK NUMBE	R: 17028	TCOHO	
	WELL ID:	NW-			Well Condi	tion:	Good	Fair	Poor	Needs Service	e
	Well Diameter (in	iches):	2	fi	Well Head	Seal:	Good	Fair	Leaky	Needs Replac	e
	Static Depth 1 to I	Product:		Time:	Water C	dor.	None	Weak	Strong	Type <sup>2</sup>	
4	Static Depth * to 1	Water:	33.55	Time 8'	Vol. Calc.:	H	2 inch di	iameter:	Vol (gal) = W	ater Height x 0.16	
103 1412	Depth * to Botton	n;		47.45 1	1, 1ral		4 inch di	iameter:	Vol (gal) = W	ater Height x 0.65	i
٠,	Height of Water (	(feet)	1.5				5 inch d	ia;met <b>er</b> :	Vol (gal) = W	ater Height x 1.02	!
	One Well Volume	e (gal):	1.5	Total Purge	Vol.3: 4,56		6 inch d	ia:meter:	Vol (gal) = W	ater Height × 1.47	7
	Depth to 80% rec	overy:			Recovery Calc:	= Sta	tic Depth t	o Water + (I	Leight of Wate	er x 0.20 )	
	PURGE	$\succeq$	Submersible	Pump	Dedicated Pump			Hand Bailer	- Disposable		
			Quickie Baile	er	Hand Bailer - PV	C	Depth to	o Pump Intak	e (feet bmp):		
	Time	Depth To	Volume	Temp	Conductivity	Т	nrbid.	рН	Color	Other	
		Water	Purged	units	4779 £\$ .6		esikiti.	- Marpha	Mate	in n'hy	
. 1	9:09		3 get	163	196	90	99	7,09	grey Killy	COS SOLITY	540.00
in phy	9133		4 30	17.9	2.09	9	49	7.24		Steen	
ورا	9.37	-	10001	20.8	2.10	9	79	7.22	Silty		
muse	9:40		Bare	32.1	2.10	9	99	7.20	5:14,	tsheen	
	95511		150	19.Ge	1.46	9	99 .	7.20	Sligho	shoon	
	9:43		17	20,0	2.06	35	77	7. 15	l' lear	/	
	9:44		19	18.3	2.00	3	09	7.14	chare	/	
	9:45		90	215	2.04	10	10	7.14	4 1		***
	9:46		22	20.4	2.05	1	17	7.14	1 1		
	9:47		24	21.01	2.05	10	97	7014	4 18	- water wa	sclea
	9:30		25	pump 54	more						
SA)-	9:59	34,22		1 '	V *					depth from	n Toc
	SAMPLING		Submersible	Pump	Disposable Baile	r		Other:			
			Dedicated P	mp	Teflon Bailer		Depth to	Water @ Sam	pling (feet lan	p):	<del></del>
								No Other P	lottles:		
	Sample No.:				Number of VOA	18					
	Sample No.:				Number of VOA  Number of VOA						

<sup>1</sup> Depth in feet below measurement point (bmp)

<sup>2</sup> Indicate odor type (H/C - hydrocarbon, Sweet, Sulfide, etc.) draftered forms/Water Sampling

## Development WATER SOMERED RECORD

		Se Sp	No.		DAY		AP	WTF	
SITE CONDITION	S/WEATH	IER: <u>C/d</u>	voly -			JECT NAM	The managed are	-	0000
OTHER:					PRC	JECT / TA	SK NUMBER	u Ita	870040
WELL ID:	MW	<u>- ユ</u>		Well Cond	ition:	Good	Fair	Poor	Needs Service
Well Diameter (inc	hes):			Well Head	Seal:	Good	Fair	Leaky	Needs Replace
Static Depth 1 to Pa	roduct:		Time:	Water	Odor,	None	Weak	Strong	Type <sup>2</sup>
Static Depth * to W	/ater:	36,67	Time: _08	Vol. Calc.:	X	2 inch di	ameter	Vol (gal) - W	ater Height × 0,16
Depth * to Bottom	:	46121	tai	_	$\Box$	4 inch di	ameter.	Vol (gal) = W	ater Height x 0.65
Height of Water (f	eet)	9.33			$\Box$	5 inch di	ameter:	Vol (gal) = W	ater Height x 1.02
One Well Volume		1.5	Total Purge V	ral. 4,599		6 inch di	·	_	ater Height x 1.47
Depth to 80% reco	-			Recovery Calc	-	1.0	2 2 3		
PURGE	י, ואנו	0.1				1 1			Steel boller.
FUNGE		Submersible Quickie Baile	•	Dedicated Pump Hand Bailer - PV		Doubh to	Hand Bailer	(fact book)	subject black
	نے ۔			Italid Dailei - F 4	-) }	Deput w	rump make	(reer birty).	SO DEMONSTRATE
Time	Depth To	Volume	Temp	Conductivity		urbid.	рН	Color	Other
15:38	Water 2000	Purged	19.4	317		99	7.33	els 1	ereity.
15138	36.86	20	11/1	2-18		diment of		thereby, ey	
7		22	201		G	99	(3(7	grey	39rdy
15,40			21.0	<u> 313</u>	gr		519		
() (1		23	20,4	2.08	CF	99	(,(1		
() 770	1 40 000	25	21.2	2.03	1	99	7/18	Slight	by cleaver
15:44		26	308	(,99	1 7	99	1001		1
15296		28	8108	1.89	(	29	lille		
15:48		30	20,9	1,94	A Comment of the Comment	93	7.14		
12320		33	21,3	1,89		08	7:15	clear	
15:51		35	ales	1, 90	14	38	714		
15 353		37	214	1,90	3	95	614	Clear	at at the state of
(5:22	36.28	38	21.4	1.89	ŀ	10	214	clear	
SAMPLING		Submersible	Pupp	Oisposable Baile		3 2	Ul7 Other:		
OTHER DESIGNATION		Dedicated P		Teflon Bailer		Depth to 1		oling (feet bro	rp):
0 1 - 17							_		
Sample No.:		- FUL	***	Number of VOA  Number of VOA		$\vdash$			<u></u>
	_			Number of VO		H			
	<u>.</u>							-	
PREPARED BY:			REV	TEWED BY:			DISTRIBU	TED TO:	
					-			-	
Depth in feet below     Indicate odor type i	meautement p	rbon, Sweet Sulfi	TEMP GONG	TURB			PV	TISA C	KOME anada, UK, and Worldw
draft excel forms / Water Sa	mpling			121			7.14		
15:54		40 2	и ј	1 7 1 7 1			r.( )	cle	cut

e	TAFF: JC			ECORD		DATE: U	1/10/06		
	TIE: APC	Soute	ife Si	Prihac		DAY: S	s 660 ⊤	WTF	· · · · · · · · · · · · · · · · · · ·
	ITE CONDITON	JS / WEATH	ep. Clas				IAME: HOW	8700 YC	) APC
	OTHER:				-×- a		TASK NUMBE		2
	WELL ID:	MI	и-3		Well Condi			Poor	Needs Service
ν	- Vell Diameter (in					Seal: Good	Fair	Leaky	Needs Replace
- <sub>[]</sub> '	Vell Diameter (in 10	Tile -		Time;	Water O			Strong	Type <sup>2</sup>
	Static Depth * to V		38,(	Time: 8:		-	diameter:		ater Height x 0.16
	epth * to Bottom		47	<u>~</u>	<u> </u>		diameter:	- y	ater Height x 0.65
	Height of Water (		89		101		ı dia:meter:	4-1	ater Height x 1.02
	One Welf Volume		14)	Total Purge	Vol. 43 781	=	h dia:meter:		ater Height x 1.47
	Depth to 80% reco		NIN				th to Water + (I	50 xx=1=x5	
	12 m	1 5 41			1 1 3	- State Dept			Skel builer
1	PURGE	=	Submersible Quickle Baile		Dedicated Pump Hand Bailer - PV	Ll C Dept	Hand Bailer h to Pump Intak	- Disposable e (feet bmp):	surge black Submersible
ſ	Time	Depth To	Volume	Temp	Conductivity	Turbid.	- pH	Color	Other
		Water	Volume Purged	graits	seite	anits	entil a	Color trest.	Other
	13:55		Purged 91	19.2	2,15	3000 - 999			\$2.00\$2.0
		Water	Purged	19.2 20.4	seite	999 999	entil a	uest.	\$2.00\$2.0
	13:55	Water	Purged 91	19.2	2,15	999 999 999	entil a	clively	\$2.00\$2.0
	13:55 13:57	Water	Purged Pgl	19.2 20.4	2.15 2.20	999 999	entil a	clively	grey, she
	13:55 13:57 13:59	Water	Purged 921 4 921 5 921 5 921	19.2 20.4 19.9 20.8	2.15 2.20 2.09	999 999 999	7.20 7.12 7.11	clerdy, i	grey, she
	13:55 13:57 13:59 14:102	Water	Purged Bg21 4 gal Sgal	19.2 20.4 19.9 20.8	2.15 2.20 2.09 2.04	999 999 999 211 818	7.20 7.20 7.12 7.11 7.10 7.09	clerdy, i	of chearer
	13:55 13:57 13:57 13:59 14:02 14:03 14:04	Water	Purged 921 4 921 5 921 7 921 8 991 10 941	19.2 20.4 19.9 20.8 21.4 20.5	2.15 2.20 2.09 2.04 2.06 1.94	999 999 999 211 818	7.20 7.20 7.12 7.11 7.10 7.09	clerdy, he clery	grey, she of chewer
	13:55 13:57 13:57 13:59 14:02 14:03 14:04 14:04	Water	Purged 921 4 921 5 921 7 921 8 991 10 921 11 921	19.2 20.4 19.9 20.8 21.4 20.5	2.15 2.20 2.09 2.04 2.06	999 999 999 211 818 5 26	7.20 7.20 7.11 7.11 7.10 7.09 7.09	clerdy, he clery	grey, she of cheaver
	13:55 13:57 13:59 14:02 14:03 14:04 14:04	Water	Purged 9921 4991 5991 7991 8991 10921 11991	19.7 20.4 19.9 20.8 21.4 20.5 21.4 21.8	2.15 2.20 2.09 2.04 2.06 1.94 2.02	999 999 999 999 211 818 526 499	7.20 7.12 7.11 7.10 7.09 7.04	clerdy, a clear Clear Clear	grey, she of cheaver
	13:55 13:57 13:57 13:59 14:02 14:03 14:04 14:04	Water	Purged 921 4 921 5 921 7 921 8 991 10 921 11 921	19.2 20.4 19.9 20.8 21.4 20.5 21.4 21.8	2.15 2.20 2.09 2.04 2.06 1.94 2.02 2.03 2.03	999 999 999 999 211 818 526 499 212 195	7.20 7.12 7.11 7.10 7.09 7.09 7.06 7.06	clerdy, he clear Clear Clear	grey, she of cheaver
	13:55 13:57 13:57 13:59 14:03 14:03 14:04 14:06 14:08 14:09 14:11	Water	Purged 4 921 4 921 5 921 7 921 8 991 10 921 11 921 13 921	19.2 20.4 19.9 20.8 21.4 20.5 21.4 21.8 21.6	2.15 2.20 2.09 2.04 2.06 1.94 2.02 2.03 2.01	999 999 999 999 211 818 526 499 212 195	7.20 7.12 7.11 7.11 7.09 7.09 7.06 7.06	clerdy, he clear clear clear clear clear clear	grey, she of cheaver
	13:55 13:57 13:59 14:02 14:03 14:04 14:06 14:08 14:09 14:11 14:11	Water	Purged 9921 4 991 5 991 8 991 10 921 11 991 13 321 14 992	19.2 20.4 19.9 20.8 21.4 20.5 21.4 21.5 21.6 21.6	2.15 2.20 2.09 2.04 2.06 1.94 2.02 2.03 2.03	999 999 999 999 211 818 526 499 212 195	7.20 7.12 7.11 7.11 7.09 7.09 7.06 7.06 7.06	cloudy, a clear Clear Clear Chear Chear	grey, she
	13:55 13:57 13:57 13:59 14:03 14:03 14:04 14:06 14:08 14:09 14:11	Water	Purged 9921 4 921 5 921 5 921 8 921 10 921 11 921 13 321 15 92 10 92 12 92 5 92	19.2 20.4 19.9 20.8 21.4 20.5 21.4 21.5 21.6 21.8 21.8	2.15 2.20 2.09 2.04 2.06 1.94 2.02 2.02 2.02 2.02	999 999 999 999 211 818 5 26 499 212 195 195	7.20 7.12 7.11 7.11 7.09 7.06 7.06 7.06 7.06 7.06 7.06 7.06	clerdy, a clear clear clear clear clear clear clear	grey, she
	13:55 13:57 13:59 14:02 14:03 14:04 14:04 14:09 14:11 14:15 14:15 14:20	Water 38,20	Purged 4 921 4 921 5 921 7 921 8 921 10 921 11 921 13 321 14 92 15 92	19.2 20.4 19.9 20.8 21.4 20.5 21.4 21.5 21.6 21.8 21.8	2.15 2.20 2.09 2.04 2.06 1.94 2.02 2.02 2.02 2.02	999 999 999 999 211 818 5 26 499 212 195 195	7.20 7.12 7.11 7.11 7.09 7.06 7.06 7.06 7.06 7.06 7.06 7.06	clerdy, a clear clear clear clear clear clear clear	grey, she
	13:55 13:57 13:59 14:02 14:03 14:04 14:04 14:09 14:11 14:15 14:15 14:20	Water 38,20	Purged 9921 4 921 5 921 5 921 8 921 10 921 11 921 13 321 15 92 10 92 12 92 5 92	19.2 20.4 19.9 20.8 21.4 20.5 21.4 21.5 21.6 21.8 21.8	2.15 2.20 2.09 2.04 2.06 1.94 2.02 2.02 2.02 2.02	999 999 999 999 211 818 5 26 499 212 195 190	7.20 7.12 7.11 7.10 7.09 7.06 7.06 7.06 7.06 7.06 7.06 7.06 7.06	clevely, is clear	grey, she

REVIEWED BY:

PREPARED BY:

\_\_\_\_\_ DISTRIBUTED TO:

Depth in feet below meaurement point (bmp)

<sup>2</sup> Indicate odor type (H/C - hydrocarbon, Sweet, Sulfide, etc.) draft excel forms / Water Sampling

	SITE:	4.1.C.	Danta !	> Spi	<u> 195</u>	DAY: S	S (M) T	WTF	stated 11 or
	SITE CONDITO	NS / WEATH	er:(_(	udy		PROJECT NA	ME: /TP	<u> </u>	
	OTHER:					PROJECT/TA	SK NUMBER	" HOS	2846040
	WELL ID:	MI	1-4		Well Condi	ition: Good	Fair	Poor	Needs Service
shee	Well Diameter (in	ches):		Ħ	Well Head	Seal: Good	Fair	Leaky	Needs Replace
אונכ	Static Depth to P	roduct:		Tlme:	Water (	Odor: None	Weak	Strong	Type <sup>2</sup>
	Static Depth * to V	Vater:	38.23	Time: 82	Vol. Cale.:	2 inch d	ameter:	Vol (gal) = W	ater Height × 0.16
	Depth * to Bottom	ı:	-47			4 Inch d	iameter	Vol (gal) = W	ater Height x 0.65
	Height of Water (	feet)	8.77			5 inch d	ia:meter.	Vol (gal) ≈ W	/ater Height x 1.02
	One Well Volume	(gal);	1.4	Total Purge	Vol. 3: 4, 2	6 inch d	la:meter:	Vol (gal) = W	ater Height x 1.47
	Depth to 80% reco	overy:			Recovery Calc	= Static Depth t	o Water + (H	eight of Wat	er x 0.20)
	PURGE		Submeraible :	Pump	Dedicated Pump		Hand Bailer -	Disposable	steel logi
			Quickie Baile	er	Hand Baller - PV	C Depth to	Pump Intake	(feet bmp):	- 1467 50
	Time	Depth To	Volume	Temp	Conductivity	Turbid.	pН	Color	Ofher
		Water	Purged	garite.	trojsa	assits:	asils	្រុកទីតែ រកទីតែ	\$187,EN
γŊ.	4 42	35.9	Sgal	19.4%	2.03	999	7.23	grey	clady, sheen
	12:44		791/	22.1	(186	206	7.23		
	12743		8 ga (	21.6	1, 93	999	7-23		gesting dear
	(2:47		40 gal	19,6	1.84	999	7-19		
	12:48		10	20.1	1,88	854	7.20		
	CR: 49		11	21.3	1.89	(5)	121		degr
	(5)20	·	13	22.0	1.87	160	7.21		
	12:51		19	22.0	1-87	131	7-21		
	12:52		15	22.0	1.86	131	7.20		Cler
	12:52	200	fornp						
•	13:00	38.2	15 94	projed				<u> </u>	
	SAMPLING		Submersible	Pump	Disposable Baile	r 🔲	Other:		
			Dedicated P	nwb	Teffon Bailer	Depth to	Water @ Samp	ling (feet bm	np):
	Sample No.:	— Godinne			. Number of VOA	us 🔲	No. Other Bo	ottles:	
		_			Number of VOA				
		Tein Diante			Number of VOA	·c	No Other Ro	d¥lae-	

<sup>1.</sup> Depth in feet below meautement point (bmp)

<sup>2</sup> Indicate odor type (H/C - hydrocarbon, Sweet, Sulfide, etc.) draft excel forms / Water Sampling

۲.	AT	A	T	L	D	S.	٨	7	A"	DΊ	ГТ	N	1	7 7	7	F	-	0	173	T	
Y	Υ.	н	. 1	E.	ĸ	D.	м	л.	41.			1		1	N.	E.		U	ш	ч	-3

...

TAFF: LP	+ 5C				DATE:	4/12/06	*	
TE: AP						S M T	artin.	
TE CONDITO	NS/WEATH	er: 5Ա	nny + 6	TOV	PROJECT NA		<u></u>	
THER:					PROJECT/TA			§7C
VELL ID:	MARI	O NIV	V-1	Well Cond	- CO.	Fair	Poor	Needs Service
/ell Diameter (in		2"	'	Well Head	( Secretary	Fair	Leaky	Needs Replace
tatic Depth 1 to I	. ,	a trace p	Thomas Pi	one invasive Water		Weak	Strong	Type <sup>2</sup>
tatic Depth * to 1	Water: 1.33	100	Time: 8			liameter:	100	ater Height x 0.16
epth * to Botton	7	43		,	4 inch d	liameter:		ater Height x 0,65
leight of Water (	feet)	48V	MG 466	<del>,7</del> .	5 inch d	lameler:	Vol (gal) = W	ater Height x 1.02
ne Well Volum	e (gal):	1.39	Total Purge		6 inch d	liameter.	Vol (gal) = W	ater Height x 1,47
epth to 80% rec	overy:	36		Recovery Calc	= Static Depth	bo Water + ( I	leight of Wat	er × 0.20 )
URGE	14	Andria pris Submersible	Turno	Dedicated Pump	× 1 1	Hand Bailer	- Dispusable	-
		Quickie Baile	1	Hand Baller - PV		o Pump Intak		*
Time	Depth To	Volume	Temp	Conductivity	Turbid.	рН	Color	Other
-	Water	Purged	96	nstom	notice	ermits	4#X60	n n i t s
9:1530		Orland	16.1	215	199	6.791	light have	wl odiment
9:40	34.38	lagil	16. a	2.10	783	\$6,95	17.	11
9:45		2991	20-0	2.09	999	6.99	11	11
1:50		3001	20.1	2.09	199	7.04	и	11
9:54		3.5 ggl	20,7	2.08	999	7.03	4	· G
9:59		4001	209	2.08	999	7.0Q	Ce	11
10:02		4.34	91.0	3.08	199	7/11	11	"
10:03		43	310	7.09	999	7.14	( <sub>t</sub>	(1
10:05		4.35	21.0	2.08	199	7.14	11	(1
	3435							-
		<u></u>			<u> </u>			<u> </u>
SAMPLING		Submersible	Pump	Disposable Baile	er	Other:		
		Dedicated P	ump	Teffon Bailer	Depth to	Water @ Samj	pling (feet bm	p): 34.35
Sample No.:	MN	- (		Number of VO	As 3	No. Other B	ottles:	10:15
	-			Number of VO				111 399
	Trip Blank:			Number of VO	As	No. Other B	ottles:	
	/P							
	41		RE'	VIEWED BY:				KOME nada, UK, and Worldw
PREPARED BY				1 ,	1			

T	17	A	Ti	FR	C	A I	V	(P)	LIN	T		F	0	0	17	D	
		1	1, 1	L L	U	77.1	Υ.	LL :	- Charles		T	L		- 1	17	1	

C							
-	- inc		·	DAY: S	5 M T	<b>(%)</b> т ғ	1
S/WEATH	IER:	Sunny		PROJECT NA	ме: ДР	<u>č</u>	
				PROJECT / TA	ASK NUMBER	. HOAS	876
MW-	<u>a</u>		Well Condit	ion: Good)	Fair	Poor	Needs Service
hes):	ຸ ລ "	•	Well Head S	eal: Good	Fair	Leaky	Needs Replace
roduct: /			Water O	dor: None	Weak	Strong	Type 2
/ater;	- A			2 inch d	liameter:	Vol (gal) = W	ater Height x 0.16
	47			4 inch d	liameter:	Vol (gal) = W	ater Height x 0.65
eet) .	10,13	<b>S</b>	-	5 inch d			ater Height x 1.02
(gal):	1.62	-	Vol. 3: 4,9	$\equiv$	+	,	ater Height x 1.47
very:		_			141		•
			1 1			y - X	
	-	_		Depth t			, 1 <sub>0</sub>
Denth To		1			T		Other
Water					1 1	Color Color	Other 11 Miles
	Oct	14,1	1091	199		light b	
	1	20.1	1,94		7.09	4.	1,
	2	21.8	1.99	999		11	1
	3	22.6	2.04	999	7.06	ic	42
	3.5		2.09	129	7.03	slight	y clearer byt
	4		2.05		700	1 1	hrown
	4.3		1.94		7.00	Fi	87
			2,05			67	n
	-			227	7.00	15	11
			· · · · · · · · · · · · · · · · · · ·	991		76	a wisediment
36-9			563				
() +·							
П	الماسية	- D	Di		Other	J	
H		-		Depth to	Water @ Samt	ling (feet bm	D: 36.9
WM-3				·[3]		1/	9/455 - 2-250
······································							
			Number of VOAs				
	Alw- ches): roduct: //ater; cet) (gal): very:  Depth To Water  Alw- Duplicate:	MW-2  thes): 2'  roduct: 10 Moduly  fater: 36.67  417  eet) 10.13  (gal): 1.62  38.6  Quickie Bali  Depth To Volume  Water Purged  Oct 1  1  2  3  3.5  4  4.3  4.3  4.9  4.9  36.9  Submersible  Dedicated I	### Depth To Volume Temp  Water Purged Purge  3 5 20.6  3 5 20.6  3 5 20.6  3 5 20.6  3 5 20.6  3 5 20.6  3 5 20.6  3 5 20.6  4 9 22.2  4 9 22.2  4 9 22.2  4 9 22.2  Duplicate:  Duplicat	Well Conditions	PROJECT/TO   MW - 2	PROJECT/TASK NUMBER	PROJECT/TASK NUMBER: ## POOT

**KOMEX** 

<sup>1</sup> Depth in feet below meaurement point (bmp)

<sup>2</sup> Indicate odor type (FI/C - hydrocarbon, Sweet, Sulfide, etc.) draft excel forms / Water Sampling

T.	٨	Ţ	A	TED	CA		API	INC	REC	ORD	ì
*	7	4	м	LEIN	D.F	11		LIVEY	IX C.	AZINI	,

TAFF:	P + 70				DATE:	4/12/0	16	· ·
ITE:A	PC				DAY: S	SMT	W)T F	
ITE CONDITO	NS/WEATH	er: Sur	My		PROJECT NA	ME:	77	
OTHER:			-		PROJECT/TA	ASK NUMBEI	: <u>H0</u> e	187C
WELL ID:	MW-			Well Cond	ition: Good	Fair	Poor	Needs Service
Vell Diameter (In	nches):	ch.	(1	Well Head	Seal: Good	Fair	Leaky	Needs Replace
tatic Depth <sup>1</sup> to I	Product: by	bot measure	Time: 8	15 Water	Odor: None	Weak	Strong	Type 2
tatic Depth * to 1	Water:	38,2	Time: 8: 4	Vol. Calc.:	2 inch d	liameter:	Vol (gal) = W	ater Height x 0.16
epth * to Botton	ne .	47			4 inch d	liameter:	Vol (gal) = W	ater Height x 0,65
leight of Water (	(feet)	8.8	·		5 inch c	lia:meter:	Vol (gal) = W	ater Height x 1,02
one Well Volume	e (gal):	1.4	Total Purge	Vol. 3: 4.2	6 inch d	lla:meter:	Vol (gal) = W	ater Height x 1.47
epth to 80% rec	overy:	39	,96	Recovery Calc	= Static Depth	to Water + (H	leight of Wal	er x 0.20)
URGE	-	Augustra Submersible	<del>Pum</del> p	Dedicated Pump		Hand Bailer	- Disposable	
	0	Quickie Baile		Hand Bailer - PV	C Depth	o Pump Intake	e (feet bmp);	
Time	Depth To	Volume	Temp	Conductivity	Turbid.	рН	Color	Other
	Water	Purged	"Calea	m Solam	144	158838-	มหน่า	व्यक्ति
11.40		0.1	21.6	2.03	999	7.00	light by	icon wil Stdiment
11:47		. 1	ã2.5	2,05	999	7.00	tc t	
11:52		2	22.6	2.04	999	7.01	te t	11
12:00		3	22.0	2.03	999	7.02	10 1	
12:02		3.5	21.7	2.03	999	7.02	I <sub>1</sub> fe	11
12:04		41	22.4	2.04	999	7.02	14.	11
12:06		4.2	22.3	2.03	999	7.03	17.	27
12:15	38.2						P+C <sub>X</sub>	
	,							-
				-				
SAMPLING		Submersible	Pump	Disposable Baile	er ·	Other:		
		Dedicated P	•	Teflon Bailer	<del>-</del>	Talle Com # Common	ling (feet bm	p): , 38.2
Sample No::	MV-	3 1	2:15	Number of VO	الا الا الا	No Other Bo	ottles: 12	1485 + 2-25
[]				Number of VO		No. Other B	ottles:	7
				Number of VO	As a			
	10					··-	· · · · · · · · · · · · · · · · · · ·	

Depth in feet below meaurement point (bmp)

 $<sup>2.</sup> Indicate odor type (HAC - hydrocarbon, Sweet, Sulfide, etc.)\\ draft exact forms / water Sumpling$ 

STAFF:	5+2	<u></u>			DATE:L	1/12/09	p	
SITE: AF	<u>C</u>				DAY: S	S M T	W T F	
SITE CONDITOR	S/WEATH	ER:5	iunny		PROJECT NA	ME:	1PC	
OTHER:					PROJECT / TA	SK NUMBER	: HOZ	870
WELL ID:	Mr	v-41		Well Condi	tion: Good	Pair	Poor	Needs Service
Well Diameter (in	ches):	2"		Well Head		) Fair	Leaky	Needs Replace
Static Depth <sup>1</sup> to P	roduct;	air not	product on	Nobe + P Brashe Water C	dor: None,	Weak	Strong	Type 2
Static Depth * to V		38,36	Time: 9:4	Vol. Calc.:		iameter:	Vol (gal) = W	ater Height x 0.16
Depth * to Bottom	ц. ·	47			4 inch d	iameter.	Vol (gal) = Wa	ater Height x 0.65
Helght of Water (	feet)	4,64			5 inch d	ia:meter:	Vol (gal) = Wa	ater Height x 1,02
One Well Volume	e (gal):	1.38	Total Purge	Val. 3: 4.15	6 inch d	ia:meter:	Vol (gal) = Wa	ater Height x 1,47
Depth to 80% rea	very:	410	.09	Recovery Calc	≃ Static Depth i	no Water + (H	elght of Wate	er x 0.20)
PURGE	]	Chineralble	l Pump	Dedicated Pump	1 1	Hand Bailer -	Disposable	
2.7		Quickie Baile		Hand Bailer - PV	C Depd∱t	o Pump Intake	_	
Time	Depth To	Volume	Temp	Conductivity	Turbid.	pН	Color	Other
14 12 <b>5</b> 1	Water	Purged	9.6	motion	nous	unita -	\$16.7 <u>\$</u> 5	ediment - lig.
14 14 33		Orl	21.9	1081	281	7.03	-	
12:31		1	31.0	1.85	999	7.03		jud sedime
12:35		2	351	1.86	999	7.03	Ч	41
12-40		3	32,6	1.8G	999	7.04	*1	"
19:44		3.5	22.0	1.80	999	7.06	14.	, (
12:46		3.9	132.1	1.85	999	7.06	10	17
12:49		4.2	22.4	1.86	999	7.06		
1:10	30.3							
	1		<u> </u>		<u> </u>	<u> </u>		
SAMPLING		Submersible	e Pump	Disposable Baile	r	Other		
		Dedicated I	Pump	Teflon Bailer	Depth to	Water @ Samp	oling (feet bm	4
	MW-	46. 0	31:10	3 Number of VOA	s 3	No. Other Bo	ottles: 12	glass + 3 -
Sample No.:	-		-					
Sample No.:	July 1	himh	1:20	Number of VOA	-	No. Other Be	,	70 1

REVIEWED BY: \_

DISTRIBUTED TO:

<sup>1</sup> Depth in fast below meaurement point (bmp)

<sup>2</sup> Indicate odor type (H/C - hydrocarbon, Sweet, Sulfide, etc.) draft excel forme / Water Sampling

Appendix E Waste Manifest

## NON-HAZARDOUS WASTE DATA FORM BE COMPLETED BY GENERATOR

BE COMPLETED	BY GENERATOR			NO	
'ame:	Associated Plating Co.		Site:		
Maling Address:	9636 Ann St.	<del></del>	Address:	Same	
ify, State, Zip:	Printed Name  Per Environmental Services  14266 Dafewood Street  Baldwin Park, CA 91706  (626) 950-8106  Y  US Filter  5375 Boyle Ave.	<del>6</del> 70	City:		
hone;	562-946- <u>5</u> 825		_		<u>-</u>
Containers: no.	3	Volume: LSO	GAL	Weight:	
TYPE:	Tank Truck	Dump Truck	Drums X	Roll Off	
Vaste Description	Water	·	Generating Process	Well Purg	Ing
Cimponents of Waste	<u>PPM</u>	<b>%</b>	Components of Weste	<u>PPM</u> · ·	<u>%</u>
Water	_	100	5		
2			6 .		
<u> </u>			7 B	· · · · · · · · · · · · · · · · · · ·	
Properties;	ph N	Scild X	Liquid	Sludge	
Annallas Issassa	More appropriate most	antivo elektron		Thi	- 
ste as described is 100% non-hazardous ISPORTER	Signature Off	aste		Date 4 - 5	-06
	PFR Environmental Serv	ices	Name:		
95;	14266 Dalewood Street		Address:		
State, Zip:	Baldwin Park, CA 91706		City, State, Zip:		····
<b>2</b> ;	(625) 950-8106		Phone:		
ed Name	Risacions	,	Printed Name		
Auro S Le		16 16	Signature		Data
FACILITY	/-//				
	JS Filter		Profile 1	No. AP1,66615	
			Landfill	Other	
		8	Phone:		
ons/Gals Rec'ti	,	———			
	Signature			Date	
	Althorities				

## 06/20/2006 19:20 16263373989 PFR ENVIRONMENTAL NON-HAZARDOUS WASTE DATA FORM

O BE COMPLETED	BY GENERATOR		NO.
Name:	Associated Plating Co.	Site:	- To Groupe
Maiing Address:	9838 Ann St.	Address:	Same
City, State, Zip:	Santa Fe Springs, Ca 90870	City:	
Phone:	562-948-5525		
Containers: no. /	3 Volume:		Weight: 7500 165
TYPE:	Tank Truck Dump Truck	Drums 🔣	Rolt Off
Waste Description	Soli	Generating Process	Exploratory Drilling
Components of Waste	PPM %	Components of Waste	PPM . %
1 Soil	100	5	•
3		7	
4		8	
Properties:	ph N Solid X	Liquid 🔲	Sludge 🔲
Handling Instructions:	Wear appropriate protective clo	thing	TPH-9040
The state of the s	Treat appropriate pressure at		1711-3040
ne generator cartifies that the waste as described is 100% non-hazardous ansporter	Signature Signature	<u> </u>	Date 6 - 9-06
ne:	PFR Environmental Services	Name:	
řeás:	14266 Dalewood Street	Address:	
		Addiess.	and the said to the second
State, Zip:	Baldwin Park, CA 91706	City, State, Zip:	
ne:	(628) 960-6106	Phone:	·
ited Name TAT	Ruspekas	Printed Name	
inture F Fee	ef Date 6/9/06	Signature	Date
D FACILITY			
Nama:	US Filter	Profile N	No. AP166615
Address:	5375 Boyle Ave.	Landfill	Other
City, State, Zip:	Los Angeles, Ca. 90058	Phone:	
Tons/Gals Rec'd	_		
			Pala
	Signature		Date

## NON-HAZARDOUS WASTE DATA FORM

2 SE COMPLETED	BY GENERATOR	والمراجعة المساوحة	<u> </u>		NO.
Name:	Associated Plating Co.		Site:		
Mailing Address;	9636 Ann St.		Address:	Same	
City, State, Zip:	Santa Fe Springs, Ca 90670		City:		
Phone:	<b>682-946-5525</b>		_		
Containers; ho.	/ Volum	ne;		Weight: ,250	o 160
TYPE;	Tank Truck Dump	Truck 🔲	Drums 🗓	Reli Off	
Waste Description	Concrete Debris		_Generaling Process	De	molition
Components of Waste	<u>PPM</u>	<u>%</u>	Components of Waste	<u>РРМ</u>	<u>*</u>
1 Concrete/Debris		100	6		
2			Ø '		
3		<u> </u>	7		
4		···	В		
Properties;	ph N Solid	X	Liquid 🔲	Sludge .	
Handling Instructions:	Wear appropriate protecti	ve clothing	i		TPH-9040
The generator conflies that the waste as described is 190% non-hazardous.	Printed Name  Signature	J.Co.	4	Date /	-9-0C
ransporter					
<u>നും:</u>	PFR Environmental Services		Name:		
dress:	14266 Dalewood Street	· · · · · · · · · · · · · · · · · · ·	Address:		
y, State, Zip;	Baldwin Park, CA 91706	<u></u>	City, State, Zip:	···········	
idne;	(626) 960-8106		Phone:		and the second s
Inted Name Ta	RUSACKAS		Printed Name		,
gnature Star	me for Date 6/9/06		Signatura		Date
SD FACILITY	<u> </u>				
Name: U	5 Filter	,	Profile I	vo. XXXX	647 AP166617
Address: 537	75 Boyle Ave.	····	Landfill	Olher	
City, State, Zip: Lot	Angeles, CA. 90058		Phone:		
Tons/Gals Redd	<b>,</b>				
	Signature			Date	
	the state of the s				



Appendix F Analytical Laboratory Data

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24 April 2006

Lee Paprocki Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200 Westminster, CA 92683

RE:APC

Work Order No.:

0604123



Attached are the results of the analyses for samples received by the laboratory on 04/06/06 16:00.

The samples were received by Sierra Analytical Labs, Inc. with a chain of custody record attached or completed at the submittal of the samples.

The analyses were performed according to the preactibed method as outlined by EPA, Standard Methods, and A.S.T.M.

The remaining portions of the samples will be disposed of within 30 days from the date of this report. If you require any additional retaining time, please advise us.

Sincerely,

Richard K. Forsyth

what I From

Laboratory Director

Sierra Analytical Labs, Inc. is certified by the California Department of Health Services (DOHS), Environmental Laboratory Accredidation Program (ELAP) No. 2320.

. .,



Worley Parsons Komex

5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project; APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	
MW3-4606-1-5	0604123-01	Soil	04/06/06 09:15	04/06/06 16:00	_
MW3-4606-1-5	0604123-02	Soil	04/06/06 09:15	04/06/06 16:00	
MW3-4606-2-15	0604123-03	Soil	04/06/06 09:40	04/06/06 16:00	
MW3-4606-2-22	0604123-04	Soil	04/06/06 10:05	04/06/06 16:00	
MW3-4606-3-25	0604123-05	Soil	04/06/06 10:10	04/06/06 16:00	
MW3-4606-3-25	0604123-06	Soil	04/06/06 10:10	04/06/06 16:00	
MW3-4606-4-35	. 0604123-07	Soil	04/06/06 10:20	04/06/06 16:00	
MW3-4606-4-35	0604123-08	Soil	04/06/06 10:20	04/06/06 16:00	
MW4-4606-1-10	0604123-09	Soil	04/06/06 13:20	04/06/06 16:00	
MW4-4606-1-10	0604123-10	Soil	04/06/06 13:20	04/06/06 16:00	
MW4-4606-2-15	0604123-11	Soil	04/06/06 13:20	04/06/06 16:00	
MW4-4606-2-15	0604123-12	Soil	04/06/06 13:25	04/06/06 16:00	
MW4-4606-3-25	0604123-13	Soil	04/06/06 13:37	04/06/06 16:00	
MW4-4606-3-25	0604123-14	Soil	04/06/06 13:37	04/06/06 16:00	
MW4-4606-4-35	0604123-15	Soil	04/06/06 13:55	04/06/06 16:00	
MW4-4606-4-35	0604123-16	Soil	04/06/06 13:55	04/06/06 16:00	
FB 4606	0604123-17	Liquid	04/06/06 14:50	04/06/06 16:00	
EB 4606	0604123-18	Liquid	04/06/06 15:00	04/06/06 16:00	
TB 4606	0604123-19	Liquid	04/06/06 00:00	04/06/06 16:00	

#### CASE NARRATIVE

SAMPLE RECEIPT:

Samples were received intact, at 4 °C, and accompanied by chain of custody documentation.

PRESERVATION:

Samples requiring preservation were verified prior to sample preparation and analysis.

HOLDING TIMES:

All holding times were met, unless otherwise noted in the report with data qualifiers.

QA/QC CRITERIA:

All quality objective criteria were met, except as noted in the report with data qualifiers.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Worley Parsons Komex 5455 Garden Grove Blvd, Suite 200 Westminster CA, 92683

Project: APC
Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

#### Metals by EPA 6000/7000 Series Methods

#### Sierra Analytical Labs, Inc.

4.00	Reporting				20.74	-		18.00	
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW3-4606-1-5 (0604123-01) Soli	Sampled: 04/06/06 09:15	Recei	ived: 04/0	6/06 16:00	0				
Silver	ND	0.80	mg/kg	1	B6D1024	04/10/06	04/10/06	EPA 6010B	•
Arsenic	11	1.7		Ħ	H	n	#	Ħ	
Barium	150	3.3	W.	D	"	п	19	D	
Beryllium	ND	0.75	er .	u	"	ħ	n	* 11	
Cadmium	ND	0.51	TT .	u	))	#	n	It	
Cobalt	15	2.2	**	n	и	78	n	II .	
Chromium	33	0.98	W	п	"	*	ţ1	11	
Hexavalent Chromium	ND	0.23	11	н	B6D1231	04/12/06	04/14/06	EPA 7199A	
Copper	30	2.2	11	**	B6D1024	04/10/06	04/10/06	EPA 6010B	
Mercury	ND	0.15	17	Ħ	B6D1025	04/10/06	04/11/06	EPA 7471A	
Molybdenum	ND	1.7		77	B6D1024	04/10/06	04/10/06	EPA 6010B	
Nickel	24	0.79		77	*	H	11	. #	
Lead	7.4	1.3	•	11	ĸ	ч	11	7	
Antimony	ND	1.6		0	e e	u	11	tr .	
Selenium	4.0	1.9	l1	11	*	h	ĮI.	30	
Thallium	ND	1.5	11	U	4	N	li	31	
Vanadium	62	0.73	H	H	n	4	*	*1	
Zinc	55	1.3	Л	ų	π	ir	77	N .	
MW3-4606-2-22 (0604123-04) Soi			eived: 04	/06/06 16:	00				
Silver	ND	0.80	mg/kg	1	B6D1024	04/10/06	04/10/06	EPA 6010B	•
Arsenic	19	1.7	n Tuffurfi	11	UUD 1024	# #	#	DEA GOTOD	
Barium	190	3.3	11	11	"	7	н		
Beryllium	ND	0.75		11	н	*	li .		
Cadmium	ND	0.73		m	·n		n	*	
Cobalt	17	2.2			11	*	n'	и.	
Chromium	38	0.98		n	11			**	
Hexavalent Chromium	ND		-	tı .		04/12/06			
		0.24		11	B6D1231 B6D1024	04/12/06	04/17/06	EPA 7199A	
Copper	38 ND	2.2	. 11	u			04/10/06	EPA 6010B	
Mercury		0.18	. "	"	B6D1025	04/10/06	04/11/06	EPA 7471A	
Molybdenum <b>Nick</b> el	. ND 29	1.7	- 10		B6D1024	04/10/06	04/10/06	EPA 6010D	
Lead .		0.79	1	"	n		10		
1.89A	7.4	1.3			11	,			
							PF .	4	
Antimony	ND	1,6	11	"		_	_		
Antimony Selenium	ND 4.9	1.9	17	11		"	7	11	
Antimony Selenium Thallium	ND 4.9 ND	1.9 1.5	df Ji	11	II U	Ð	# #	11	
Antimony Selenium	ND 4.9	1.9	17	11			7 F H	4 4 1	

Page 2 of 4

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Worley Parsons Komex

5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

#### Metals by EPA 6000/7000 Series Methods

#### Sierra Analytical Labs, Inc.

*	Rep	orting							
Analyte	Result	Limit	Units	Dilution	Batch	Propared	Analyzed	Method	Notes
MW3-4606-3-25 (0604123-06) Soll	Sampled: 04/06/06 10:10	Rec	elved: 04	/06/06 16:	00				
Silver	ND	0.72	mg/kg	1	B6D1024	04/10/06	04/10/06	EPA 6010B	
Arsenic	4.7	1.5	•		t†	¥	*	R	
Barium	70	3.0		- 4	U	न	Ħ	e	
Beryllium	ND	0.68		**	ıı	11	11	#	
Cadmium	ND	0.46	77	. 4	H	11	11	π	
Cobalt	5.9	2.0	п	ч	H	11	11	₩	*
Chromium	13	0.88	41	n	H	"	u	*	
Hexavalent Chromium	ND	0.24	77	11	B6D1231	04/12/06	04/14/06	EPA 7199A	
Copper	9.4	2.0	U	A	B6D1024	04/10/06	04/10/06	EPA 6010B	
Mercury	ND	0.15	91	Ħ.	B6D1025	04/10/06	04/11/06	EPA 7471A	
Molybdenum	ND	1,5	v	it .	B6D1024	04/10/06	04/10/06	EPA 6010B	
Nickel	8.9	0.71	9	H	11	P	н	n	
Lead	3.2	1,2		10	111-7	н	0	9	
Antimony	ND	1.4	11	JI =	11	It	11	n	
Selenium	2.2	1.7	ĮI.	п	11	7	ч	н	
Thallium	ND	1.4	н	н	o	*	,,	п	
Vanadium	28	0.66	II.	n	II.	4	ч	rr .	
Zinc	27	1.1	н	п	ır	•	11	rr	
MW3-4606-4-35 (0604123-08) Soil	Sampled: 04/06/06 10:20	) Rec	ceived: 04	/06/06 16:	00				•
Silver	ND	0.80	mg/kg	1	B6D1024	04/10/06	04/10/06	EPA 6010B	0
Arsenic	3.3	1.7		н	79		11	H	
Barlum	44	3.3			#	*	ţı.	*	
Beryllium	ND	0.75		n	*	**	9	*	
Cadmium	ND	0.51	*	н	₩	11	11	16	-
Cobalt	3.2	2.2		u	¥	11	11	Ħ	
Chromium	7.3	0.98	W		4	u	U	п	
Hexavalent Chromium	ND	0.23	ъ .	п	B6D1231	04/12/06	04/14/06	EPA 7199A	
Copper	5.2	2.2			B6D1024	04/10/06	04/10/06	EPA 6010B	
Mercury	ND	0.16	11	11	B6D1025	04/10/06	04/11/06	EPA 7471A	
Molybdenum	ND	1.7	- N	11	B6D1024	04/10/06	04/10/06	EPA 6010B	-
Nickel	5.2	0.79	11	п	11	N-10100	H	"	•
Lead	1.4	1,3	11	, н	11	Pt.	н	11	
Antimony	ND	1.6	11	1 11	11	H	6	19	
Selenium	ND	1.9	11-		19		1	*1	
Thellium	ND	1.5		i i		*	71	"	
Vanadium	14	0.73		0	 Pr		7	e	
Zinc	15	1.3				11	*	U	
Zille	15	1.3	-		•	-	•	*	

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Worley Parsons Komex 5455 Garden Grove Bivd. Suite 200 Westminster CA, 92683 Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

#### Metals by EPA 6000/7000 Series Methods

#### Sierra Analytical Labs, Inc.

Ansiyte MW4-4606-1-10 (0604123-10) Soil Sîlver Arsenic	Result Sampled: 04/06/06  ND 7.6 160	13:20 Reco	Units eived: 04. mg/kg	Dilution /06/06 16:	Batch 00	Prepared	Analyzed	Method	Note
Sîlver	ND 7.6 160	0.80		/06/06 16:	UU				
	7.6 160		mg/kg						
Arsenic	160	1.7		1	B6D1024	04/10/06	04/10/06	EPA 6010B	
			r,	11	15	н	u	*	
Barium	in their	3.3	ч	11	18	N	ii.	₩	
Beryllium	ND	0.75	4	н	tr	#	h	*	
Cadmium	ND	- 0.51	n		0	*	ıı	11	
Cobalt	12	2,2	*	н	P	₩.	n	*	
Chromium	31	0.98	Ħ	п	by	#	*	79	
Hexavalent Chromium	ND	0.25	Ħ	r r	B6D1231	04/12/06	04/14/06	EPA 7199A	-30
Copper	26	2.2	₩	R	B6D1024	04/10/06	04/10/06	EPA 6010B	
Mercury	ND	0.16	47	Ħ	B6D1025	04/10/06	04/11/06	EPA 7471A	
Molybdenum	ND	1.7	47	Ħ	B6D1024	04/10/06	04/10/06	EPA 6010B	
Nickel	23	0.79	11	77	tf.	16	Ħ	11	
Lead	5.7	1.3	11	#	*	11	Ħ	N .	
Antimony	ND	1.6	W	*	P	11	n	11	
Selenium	3.2	1,9	*	4	n	) r	11	N	
Thallium	ND	1.5	P	11	0	ŧ!	ĮI.	п	
Vanadium	50	0.73	4	11	41	FF.	16	h	,
Zinc	82	1,3	ø	19	ч	"	И	N	
MW4-4606-2-15 (0604123-12) Soil	Sampled: 04/06/06	13:25 Rec	eived: 04	/06/06 16:	00				
Silver	ND	0.80	mg/kg	1	B6D1024	04/10/06	04/10/06	EPA 6010B	
Arsenic	14	1.7	1)	A!	1	T	0	11	1
Barium	180	3.3	11	v	н	D		п	
Beryllium	ND	0.75	u	U		*	4		
Cadmium	ND	0.51	u.	U		19	u	4	
Cobalt	16	2.2	tr	lr.	11	*	19	11	
Chromium	34	0,98	"	п	#	n		11	
Hexavalent Chromium	0.92	0.25	"	U	B6D1231	04/12/06	04/14/06	EPA 7199A	
Copper	37	2.2	0	n	B6D1024	04/10/06	04/10/06	EPA 6010B	
Mercury	ND	0.18	0	ч	B6D1025	04/10/06	04/11/06	EPA 7471A	
Molybdenum	ND	1.7	**	u	B6D1024	04/10/06	04/10/06	EPA 6010B	
Nickel	30	0.79	Ħ	n	IJOD TOZT	11000	U-1/10/00	"	
Lead	8.2	1.3		4	II	0	þr	Ur.	
Antimony	ND	1.6	u	11	и	0	It	<b>Ú</b> F	
Selenium	5.0	1.9		11	И	10	"	ft-	
Thallium	ND	1.5		1)	ıı		P	o	
Vanadium	59	0.73		ц	T	н	π	н	
Zinc	77	1.3	n	II.	*	н	=	H	

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5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

### Metals by EPA 6000/7000 Series Methods

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW4-4606-3-25 (0604123-14) Soil	Sampled: 04/06/06 13:3	7 Rec	eived: 04/	06/06 16:	00		-		oc.
Silver	ND	0.80	mg/kg	1	B6D1024	04/10/06	04/10/06	EPA 6010B	
Arsenic	6.1	1.7	u ·	IP.	N	71	N	II.	
Barium	170	3.3	11	9	11	н	IT.	4	
Beryllium	ND	0.75	ŋ		<b>e</b> 9	M	7	(r	
Cadmium	ND	0.51	11	ii	U	п	*	Ħ	3.0
Cobalt	15	2.2	el ×	₩.	71	17	₩ 1	11	
Chromium	30	0.98	н	11	н	u	b	9	
Hexavalent Chromium	ND	0.24	. 11	47	B6D1231	04/12/06	04/17/06	EPA 7199A	
Copper	30	2.2	11	H =	B6D1024	04/10/06	04/10/06	EPA 6010B	
Mercury	ND	0.18	п		B6D1025	04/10/06	04/11/06	EPA 7471A	
Molybdenum	ND	1.7	ı	tı .	B6D1024	04/10/06	04/10/06	EPA 6010B	
Nickel	24	0.79	11	п	7	9	71	P	
Lead	5.2	1.3	п	ц	41		10	11	
Antimony	ND	1,6	#	ñ	h	M	11	и	
Selenium	4.3	1.9	**	9		<b>#</b>	11	н	
Thallium	ND	1.5	77	0		п	П	n	-
Vanadium	61	0.73		le le	n	*	W	11	
Zinc	67	1.3	н	ħ	H	ď	. 4	и .	
MW4-4606-4-35 (0604123-16) Soil	Sampled: 04/06/06 13:5	5 Rec	eived: 04	/06/06 16:	00				
Silver	ND	0.80	mg/kg	1	B6D1024	04/10/06	04/10/06	EPA 6010B	
Arsenic	3.3	1.7	11	N	Ħ	"	₩.	и	
Barium	69	3.3	n	l)	101	11	- 0	19	
Beryllium	ND	0.75	U		*	"	π		
Cadmium	ND	0.51	11	Q	u	M 2	b	ń	
Cobalt	5.6	2.2	17	- 1	¥f	"	w	Ħ	
Chromium	14	0.98	n	· •	ń	. н	u'		
Hexavalent Chromium	ND	0.25	v	*	B6D1231	04/12/06	04/14/06	EPA 7199A	
Copper	8.3	2.2	R	1)	B6D1024	04/10/06	04/10/06	EPA 6010B	
Mercury	ND	0.18	H		B6D1025	04/10/06	04/11/06	EPA 7471A	
Molybdenum	ND	1.7	<b>#</b>		B6D1024	04/10/06	04/10/06	EPA 6010B	
Nickel	8.2	0.79			0	H	н	II.	
Lead	2.3	1.3		n	11	π		11	
Antimony	ND	1.6	п	*	h	Ħ	П	0	
Selenium	2,3	1.9	19	• 11	IF	Ħ	III	н	
Thallium	ND	1.5	u	11	"	-	11	н	
Vanadium	24	0.73	п	b	U	**	IF	200	

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5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

### Metals by EPA 6000/7000 Series Methods

### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
FB 4606 (0604123-17) Liquid	Sampled: 04/06/06 14:50	Received	04/06/06	16:00			<del></del>	ongest.	
Silver	ND	0.0030	mg/L	1	B6D1125	04/11/06	04/12/06	EPA 6010B	•
Arsenic	ND	0.025	70	11	1)	P	04/12/06	0	
Barium	ND	0.019	W	#	ŧt	U.	04/12/06	0	
Beryllium	ND	0.0090	Ħ	17	tf .	#	π	U	
Cadmium	ND	0.0040	11	*	ţi.	*	04/12/06	ti.	
Cobalt	ND	0.0060	11	#	h	H		U	
Chromium	ND	0.0060	11-	**	n	#	tt	"	
Hexavalent Chromium	ND	0.0020	11	19	B6D1815	04/06/06	04/06/06	EPA 7199	
Copper	ND	0.012	10	ΤŦ	B6D1125	04/11/06	04/12/06	EPA 6010B	
Mercury	ND	0.00073		41	B6D1112	04/11/06	04/11/06	EPA 7470A	
Molybdenum	ND	0.028		16	B6D1125	04/11/06	04/12/06	EPA 6010B	
Nickel	ND	0.010	и	11	11	n	ı		٠,
Lead	ND	0.019	W	1)	14	77	10	#	
Antimony	ND	0.023		u	11	W	n	Ħ	
Selenium	ND	0.026	H	ır	II	u	11	*	
Thallium	ND	0.011	ir .	u,	II.	N	II	T)	
Vanadium	ND	0.012	4	o	II	11	04/12/06	37	
Zinc	ND	0.024	*	11	Ü	11	04/12/06	r,	
EB 4606 (0604123-18) Liquid			: 04/06/00	5 16:00					
Silver	ND	0.0030	mg/L	1	B6D1125	04/11/06	04/12/06	EPA 6010B	
Arsenic	ND	0.025	11	7	"	и	04/12/06	11	
Barium	ND	0.019	н	#	U	H	04/12/06	11	
Beryllium	ND	0.0090	14	*	17		(1	И	
Cadmium	ND	0.0040	п	91	D	п	04/12/06	и	
Cobalt	ND	0.0060	ĮI.	#			U-7/12/00	It	
Chromium	ND	0.0060	y	и	=	*	17	ı,	
Hexavalent Chromium	ND	0.0020	u	я	B6D1815	04/06/06	04/06/06	EPA 7199	
Copper	ND	0.012	11	7	B6D1125	04/11/06	04/12/06	EPA 6010B	
Mercury	ND	0.00073	14		B6D1112	04/11/06	04/11/06	EPA 7470A	
Molybdenum	ND	0.0073	7	11	B6D1125	04/11/06	04/12/06	EPA 6010B	
Nickel	ND	0.010	*	11	וועטם	04/11/00	04/12/06	EFA OUTOD	
Lead	ND	0.019	79			11	n		
	ND	0.019	"	"	ii.		n	 Tr	
Antimony			#	"	18	11			
Scienium	ND	0.026			,,	9			
Thallium	ND	0.011		"	u I	N N		7	
Vanadium	ND	0.012	1	"	"	ei Pr	04/12/06	7	
Zinc	ND	0.024	11	п	u	rī	04/12/06	11	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

### Total Volatile Petroleum Hydrocarbons (TVPH) by GC/FID

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB 4606 (0604123-19) Liquid	Sampled: 04/06/06 00:00	Received	: 04/06/0	6 16:00	,				
Gasoline Range Hydrocarbons (C4-C12)	ND	50	μg/L	1	B6D1022	04/10/06	04/10/06	EPA 8015B	
Surrogate: a,a,a-Trifluorotoluen	e	106 %	70-	125	н	"	"	N	



5455 Garden Grove Blvd. Suite 200 Westminster CA, 92683 Project: APC
Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

# Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID

### Sierra Analytical Labs, Inc.

Analyte	Result	porting Limit	Units	Dilution	Batch	Prapared	Analyzed	Method	Notes
						1100000	Amaryzeu	17101100	1100
	Sampled: 04/06/06 09:15	-		0/00 10:0	0	0.00			
HC < C8	ND	10	mg/kg	10	B6D1121	04/11/06	04/12/06	EPA 8015B	
C8 <= HC < C9	ND	10	H	14	"	41	11	н 🗥	
C9 <= HC < C10	ND	10	P	**	"	11	11	h	
C10 <= HC < C11	ND	10	**	77	· • #	Ħ	h	*	
$C11 \leftarrow HC < C12$	ND	10	Ħ	și și	7	IP.	. "	п	
C12 <= HC < C14	190	10	н	Π	*	ie.	"	п	
C14 <= HC < C16	190	10	π	41	*	17	30	. "	
C16 <= HC < C18	200	10	и	0	*	10	11	11	
C18 <= HC < C20	160	10	N	D	*	ır	Ħ	U	
C20 <= HC < C24	300	10	н	н	**	II .	Ħ	lt.	
C24 <= HC < C28	350	10	н	h	10	II .	Ħ	U	
C28 <= HC < C32	480	10	Ħ	ħ	"	11	•	IJ	
HC >= C32	38	10	li .	п	11	10	7	D	
Total Petroleum Hydrocarbons (C7-C36)	1900	50	11	II.	"	U	*	h	
Surrogate: o-Terphenyl		%	60-	175	Ħ	r	*	n	S-0
MW3-4606-2-15 (0604123-03) Sott	Sampled: 04/06/06 09:4	0 Rec	eived: 04	/06/06 16:	00				
HC < C8	ND	1.0	mg/kg	]	B6D1121	04/11/06	04/12/06	EPA 8015B	
C8 <= HC < C9	ND	1.0	IT	11		11	4	ij	
C9 <= HC < C10	ND	1.0	IT.	11	77	30	ч	11	
C10 <= HC < C11	ND	1.0	H	e	*	11	11	μ	
C11 <= HC < C12	ND	1,0	N	41	W	11	11	0.	
C12 ← HC < C14	ND	1,0		ĮI.	#	11	11	11	
C14 <= HC < C16	ND	1.0	R	ı	₩.	11	ч		
C16 ← HC < C18	ND	1.0	*	u	*	ĮI.	N	. 0	
C18 <= HC < C20	ND	1.0	*	41	*			k	
C20 <= HC < C24	1.1	1.0	₩	ų	•	n	N		
C24 <= HC < C28	3.6	1.0	*	ti .	*	U		ď	
C28 <= HC < C32	30	1.0	Ħ	41	•	11		а	
HC >= C32	5.8	1.0	11	II	17	.8.	#	11	
Total Petroleum Hydrocarbons (C7-C36)	80	5.0	11	н	11	Ü	#	п	
Surrogate: o-Terphenyl		147 %	60-	175	*	п	"	rr	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Manager: Lee Paprocki

Project Number: H0287C

Reported: 04/24/06 15:46

Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID

Sierra Analytical Labs, Inc.

Analyte	Result I	rting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW3-4606-3-25 (0604123-06) Soil	Sampled: 04/06/06 10:10	Rec	eived: 04	06/06 16:	00				
HC < C8	ND	10	mg/kg	10	B6D1121	04/11/06	04/12/06	EPA 8015B	
C8 <= HC < C9	ND	10	U.	h	ir	P	n	ii ii	
C9 <= HC < C10	ND	10	tr	11	n	II .	11	н	
C10 <= HC < C11	ND	10	н	10	77	U	l1	a	
C11 <= HC < C12	ND	10	ш	Ħ	<b>tr</b>	· · · · · · · · · · · · · · · · · · ·	11	ч	
C12 <= HC < C14	290	10	4	π	И	n	Ir	II .	
C14 <= HC < C16	250	10	п	"	11 <	T	.,	н	
C16 <= HC < C18	180	10	u		II	tı	tr	n .	
C18 <= HC < C20	180	10	**	n	14	11	U	n	
C20 <= HC < C24	270	10	90	n	n	17	v	n	
C24 <= HC < C28	360	10	. 44	ĮI.	Ħ	*1	le .	a ÷	
C28 <= HC < C32	460	10	0	н	II	11	U	н	F .
HC >= C32	34	10	Ý	u	14	11	°u -	н	
Total Petroleum Hydrocarbons (C7-C36)	2000	50	W	li	H	11	H	H	
Surrogate: o-Terphenyl		%	60-	175	n	-	"	n	S-03
MW3-4606-4-35 (0604123-08) Soil	Sampled: 04/06/06 10:20	Rec	eived: 04	/06/06 16:	00			7	
HC < C8	ND	10	mg/kg	10	B6D1121	04/11/06	04/12/06	EPA 8015B	
C8 <= HC < C9	ND	.10	11	"	*	11	11	h	
C9 <= HC < C10	21	10	н .	n	•	11	44	n -	
C10 <= HC < C11	39	10	н	п	*	41-	4	Th.	. =
C11 ← HC < C12	22	10	я	#		*	11	* *	
C12 <= HC < C14	280	10	₹	n	*		11	₩	
C14 <= HC < C16	380	10	*	п	Ħ		11-	*	
C16 <= HC < C18	350	10		11	11		11	*	
C18 <= HC < C20	260	10	*	n	и	H	11	Ħ	2.1
C20 <= RC < C24	440	10	w	п	n	H	п	P .	
C24 <= HC < C28	600	10	₩	н	11		4		
C28 <= HC < C32	630	10	10	11	п	**	17	#	*
HC >= C32	46	10	TF.	11	н	1)	er .	Ħ	
Total Petroleum Hydrocarbons (C7-C36)	3100	50		P	п	n	r	'n	
Surrogate: o-Terphenyl	*	%	60-	175	и	rr -		"	S-0.



Westminster CA, 92683

Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200

Project APC
Project Number: H0287C
Project Manager: Lee Paprocki

Reported; 04/24/06 15:46

# Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID

#### Sierra Analytical Labs, Inc.

Anglyte	•	rting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW4-4606-1-10 (0604123-10) Soil		-				11492.00		1,200,00	2.10,10
				00/00 10:					
HC < C8	ND	1.0	mg/kg	1	B6D1121	04/11/06	04/12/06	EPA 8015B	
C8 <= HC < C9	ND	1.0	и	n	п	-0 :	ч	, fa	
C9 <= HC < C10	1.6	1.0	, P	u W	u	ii.	r,	11	
C10 <= HC < C11	7.9	1.0	N	D	п	tt	н	II	
C11 <= HC < C12	8.9	1.0			и	0.0	0	н	
C12 <= HC < C14	37	1.0		n	М	П	47	и	
C14 <= HC < C16	42	1.0	11	n	ļi .	(I	m m	et e	
C16 <= HC < C18	52	1.0	II.	IJ	11	11		, 11	
C18 <= HC < C20	24	1.0	· U	11	u	и	π	n	
C20 <= HC < C24	51	1.0	jr.	W. (2)	n	11	'n	п	
C24 <= HC < C28	80	1.0	0	n	19	**	H	11	
C28 <= HC < C32	65	1.0	IF	e n	**	(f	n	11	
HC >= C32	3.2	1.0	.00	n	Ţī.	u.	п	п	
Total Petroleum Hydrocarbons (C7-C36)	370	5.0	B	ļi.	н	'n	u	ħ	
Surrogate: o-Terphenyl	- 18	35 %	60-	175	7		п	#	S-0
MW4-4606-2-15 (0604123-12) Soil	Sampled: 04/06/06 13:25	Rec	eived: 04	/06/06 16:	00				
HC < C8	ND	1,0	mg/kg	1	B6D1121	04/11/06	04/12/06	EPA 8015B	
C8 <= HC < C9	ND	1.0	11	"	17	*	ч	n	0.
C9 <= HC < C10	2.1	1.0	11	D	11	*	н	11	
C10 <= HC < C11	4.1	1.0	. **	II.	9	*	н	10	
C11 <= HC < C12	5.5	1.0	11	n	=	ч	*	ır	
C12 <= HC < C14	25	1.0	11	11.	n	11	94	D.	
C14 <= HC < C16	30	1.0	11	77	#	"	я	U	
C16 <= HC < C18	34	1.0	10	31	U	11	#	tr.	
C18 <= HC < C20	26	1.0	11	11	н	11	#	11	
C20 <= HC < C24	58	1.0	* 4	ч	n	"	*	0	
C24 <= HC < C28	58	1.0	[4	д	п	11	P	D.	
C28 <= HC < C32	66	1.0	п	11		11	tf	U	
HC >= C32	4.4	1.0	. 11	71	ц	U	Ħ	0	
			0		II	ıt	н	п	
Total Petroleum Hydrocarbons (C7-C36)	310	5.0	"	ĮI.	,		,	11	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki Reported: 04/24/06 15:46

## Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID

Analyte	Result Result	rting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW4-4606-3-25 (0604123-14) Sail	Sampled: 04/06/06 13:37	Rec	eived: 04	/06/06 16:	00			***	
HC < C8	ND	1.0	ıng/kg	1	B6D1121	04/11/06	04/12/06	EPA 8015B	
C8 <= HC < C9	1.0	1.0	Q.	ч	U	Ŋ	ц	n	
C9 <= HC < C10	10	1.0	W	11	U	h	U	н	
C10 <= HC < C11	14	1.0	#	11	÷ ų	H <sup>a</sup>	u u	li -	
C11 <= HC < C12	21	1.0	a ·	11	n	PI	"	- g	
C12 <= HC < C14	66	1.0	ч	Ħ	0	**	19	u	0.0
C14 <= HC < C16	80	1.0	u	P	0.	N	11	"	
C16 <= HC < C18	49	1.0	"	II	0	77	н	U	
C18 <= HC < C20	31	1.0	"	11	Ū	11	n	· ·	
C20 <= HC < C24	58	1.0	11	D	H	17	10	U	
C24 <= HC < C28	90	1.0	"	lr .	н	Ħ	n	(t	
C28 <= HC < C32	74	1.0	н	IF	* 6	78	n	U	*
HC >= C32	3.8	1.0	"	n	H	я	II .	9	7
Tntal Petroleum Hydrocarbons (C7-C36)	500	5.0	II.	•	Ħ	*	Ħ	u	
Surrogate: o-Terphenyl	19	2%	60-	175	н	W	*	n	S-07
MW4-4606-4-35 (0604123-16) Soil	Sampled: 04/06/06 13:55	Rec	eived: 04	/06/06 16:	00				· × ×
HC < C8	ND	10	tog/kg	10	B6D1121	04/11/06	04/12/06	EPA 8015B	(0)
C8 <= HC < C9	ND	10			*	74	e v	w '	
C9 <= HC < C10	ND	10	U	n	Ħ	Ħ	11	, N	
C10 <= HC < C11	21	10	н	. "	*	1)	<b>#</b>	1	
C11 <= HC < C12	46	10	11	41	•	17	*	W.	
C12 <= HC < C14	220	10	D			11	H	11	
C14 <= HC < C16	330	10	н	п	*	11	**	17	
C16 <= HC < C18	330	10	ш	ti	•	00	h	11	
C18 <= HC < C20	250	10	- 16	U	-	n	9	11	
C20 <= HC < C24	400	10	n	и	7	П	IJ	17	
C24 <= HC < C28	540	10	n	ч	•	п	11		,
C28 <= HC < C32	610	10		n	w	ш	п	p ==	
HC>= C32	48	10	ŧ	н	17	v	n	n	
Total Petroleum Hydrocarbons (C7-C36)	2800	50	lir.	и	OF.	tı	n	n ·	
Surrogate: o-Terphenyl		96	60-	175	#	"	77	u	<i>Ş</i> =0.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki Reported: 04/24/06 15:46

## Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
FB 4606 (0604123-17) Liquid	Sampled: 04/06/06 14:50	Received	: 04/06/0	6 16:00					
HC < C8	ND	0.010	mg/L	1	B6D1119	04/11/06	04/12/06	EPA 8015B	
C8 <= HC < C9	ND	0.010	0	u	9	*	#	ii .	
C9 <= HC < C10	ND	0.010	U.	41	· ·	и	17	(I	
C10 <= HC < C11	ND	0.010	U	41	u	77		U.	
C11 <= HC < C12	ND	0.010	11	Ħ	ų.	Ti	n	II	
C12 <= HC < C14	ND	0.010	H.	u	н	Ψ.	n	U	
C14 <= HC < C16	ND	0.010	n	N	н	11	14	n	
C16 <= HC < C18	ND	0.010	n	N	00	и	n	D	
C18 <= HC < C20	ND	0.010	9	п	н	11	h	e e	
C20 <= HC < C24	ND	0.010	н	Ħ	M	0	*	н	
C24 <= HC < C28	ND	0.010	н		Ħ	**	11	ţı .	
C28 <= HC < C32	ND	0.010	n		H	11	Ħ	ti .	
HC >= C32	ND	0.010	n		. #	11	11	n	
Total Petroleum Hydrocarbons (C7-C36)	ND	0.050	и	R	н	11	11	0	
Surrogate: o-Terphenyl		135 %	60-	175	n	D)	h	"	
EB 4606 (0604123-18) Liquid	Sampled: 04/06/06 15:00	Received	: 04/06/0	6 16:00					
HC < C8	ND	0.010	mg/L	1	B6D1119	04/11/06	04/12/06	EPA 8015B	
C8 <= HC < C9	ND	0.010	11	п	*	•	Ħ	u	
C9 <= HC < C10	ND	0.010	16		n	•	N	. 97	
C10 <= HC < C11	ND	0.010	11	n		7		11	
C11 ← HC < C12	ND	0.010	u	11	н	11		M	
C12 <= HC < C14	ND	0.010	n	11	g. W	ų.	п		
C14 <= HC < C16	ND	0.010		ti	н	*	*	M B	
C16 <= HC < C18	ND	0.010	н	n	II	•	π	и.	
C18 <= HC < C20	ND	0.010	19	. H	h		₩.		
C20 <= HC < C24	ND	0.010	W	ij	ų.	*	*	n	
C24 <= HC < C28	ND	0.010	*	11	41	m	#	**	
C28 <= HC < C32	, ND	0.010	*	Į)	11	19	11	ft	÷
HC >= C32	ND	0.010	11	7	π	11	11	n .	
Total Petroleum Hydrocarbons (C7-C36)	ND	0.050	11	₩	*	Û	11	h	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

Volatile Organic Compounds by EPA Method 8260B

Sierra Analytical Labs, Inc.

Analyte	Result	orting	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
					10,17410	x tehaton	rualyzett	14101000	1401
MW3-4606-1-5 (0604123-02) Soil	Sampled: 04/06/06 09:15	Rece	ived: 04/0	06/06 16:00	)				
Benzene	ND	3.8	μg/kg	1	B6D1207	04/10/06	04/11/06	EPA 8260B	
Bromobenzene	ND	3.8	(r		н	9	17	u	
Bromochloromethane	ND	3,8	lt.	н		0	N	u	
Bromodichloromethane	ND	3.8	et.	ij	11	II	U	1)	
Bromoform	ND	3.8	"	ч	11	"	IP	п	
Bromomethane	ND	3.8	. 0	ш	11	"	It	н	
n-Butylbenzene	3.8	3.8		h	1)	"	dr.	ħ	•
sec-Butylbenzene	16	3.8	H	11	1)	U	U.	n	
tert-Butylbenzene	ND	3.8	, T	H	и .	11	ır	10	
Carbon tetrachloride	ND	3.8	н	n	н	11	Ħ	Ĥ.	
Chlorobenzene	ND	3.8	+	n n	JI .	n	#	-10	
Chloroethane	ND	3.8	n	Ħ	II	n	r	n	*
Chloroform	ND	3.8	н -	н	)ı	U	·π	Più III	
Chloromethane	ND	3,8	. 0	n	II	n	*	m	
2-Chlorotoluene	ND	3.8	н	×	*	ĮI.	н	H	
4-Chlorotoluene	ND	3.8	Л	*	14	ч	м	н	
Dibromochloromethane	ND	3,8	N	#	7	n	ŧ	π	
1,2-Dibromo-3-chloropropane	ND	3.8	ĮI.	**	*	u	ti ti	*	
1,2-Dibromoethane (EDB)	ND	3.8	H		1 *	H	41	et	,
Dibromomethane	ND	3.8	*	Ħ	и		п	<b>#</b> 1	
1,2-Dichlorobenzene	ND	3.8		÷ "		R	h	N	
1,3-Dichlorobenzene	ND	3.8				N	п	*	
1,4-Dichlorobenzene	ND	3.8		7	11	н	N	H	
Dichlorodifluoromethane	ND	3.8	14	п	н	п	N	н	
1,1-Dichloroethane	ND	3.8	#	Ħ		IT		-	-10-
1,2-Dichloroethane	ND	3.8		11	II.		7	ų	
1,1-Dichloroethene	ND	3.8		11			*	¥.	-
cis-1,2-Dichloroethene	42	3.8	Ħ	16	II	*	я	* 17	
trans-1,2-Dichloroethene	ND	3.8	p.	И	19	*	•	. 4	
1,2-Dichloropropane	ND	3.8	T	10	IP.	•		0	
1,3-Dichloropropane	ND	3.8	н	11	u	11	ч		
2,2-Dichloropropane	ND	3.8	n.	u	ŧ	(1	19	11	
1,1-Dichloropropene	ND	3.8	b C	п		11	и	Ħ	
cis-1,3-Dichloropropene	ND	3.8	н	н	Ħ	11 .	и	11	*
trans-1,3-Dichloropropene	ND	3.8		**	17	11	ĮI.	11	1
Ethylbenzene	14	3.8	11	ú	ų	II.	ti ti	n	
Hexachlorobutadiene	ND	3.8	, h	,,	11		U	11	
Isopropylbenzene	21	3.8		ú	0	"	ų.	11	
	ND	3.8	4	 u		"	"	π	
p-Isopropyitoluene			"	9	9		11	η	
Methylene chloride Methyl tert-butyl ether	10 ND	3.8	,,	,	"		"	 u	



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200 Westminster CA, 92683 Project APC
Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

# Volatile Organic Compounds by EPA Method 8260B

#### Sierra Analytical Labs, Inc.

4-1		gnilro	•• 1	D11 - 1	<b>5</b>		4-1-6		\$7
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW3-4606-1-5 (0604123-02) Soil	Sampled: 04/06/06 09:15	Rece	ived: 04/0	6/06 16:0	0		A		
Naphthalene	240	3.8	μg/kg	1	B6D1207	04/10/06	04/11/06	EPA 8260B	
n-Propylbenzene	28	3.8	U	H	11	п	и	11	
Styrene	ND	3.8	e	11	11	п	tt	*.	0
1,1,1,2-Tetrachloroethane	ND	3.8	39	*	17	π	D	19	*
1,1,2,2-Tetrachloroethane	ND	3.8	. 0	er	<b>97</b>	ħ	U	11	
Tetrachloroethene	ND	3.8	n	M	7	11	ų.	· u	
Toluene	ND	3.8	u	₩.	#	π	u	U	
1,2,3-Trichlorobenzene	ND	3.8	u	π	**	n	h	*	
1,2,4-Trichlorobenzene	ND	3.8	n <sub>ic</sub>	**	w	n	n	0 🚊	
1,1,1-Trichloroethane	ND	3,8	0	м	W	n	II .	п	
1,1,2-Trichloroethane	ND	3.8	11	и	11	n	•	ęı .	
Trichloroethene	ND	3.8	þr	•	11	į,	h	ŧ	
Trichlorofluoromethene	ND	3.8	P	₩	"	11		łı	
1,2,3-Trichloropropane	ND	3.8	ft	**	11	11	ч	H	
1,2,4-Trimethylbenzene	ND	3,8	. *	11		p	п	rl .	
1,3,5-Trimethylbenzene	ND	3.8		11	11	И	11	н	
Vinyl chloride	ND	3.8	*	11	u	II	N	Ц	
m,p-Xylene	ND	3.8	F	It.		II	N	h	
o-Xylene	ND	3.8	н	п	u	ú	N	н	
Surrogate: Dibromofluoromethane		7.0 %	80-	120	. #	t	Į!	tt.	
Surrogate: Toluene-d8		7.8%		117	#		tt		
Surrogate: 4-Bromofluorobenzene		8.1 %		121	n	n	#	п	
MW3-4606-2-15 (0604123-03) Soil					:00				10
Benzene	ND	3.8	μg/kg	1	B6D1207	04/10/06	04/11/06	EPA 8260B	
Bromobenzene	ND	3.8	ii Trifficer St	ıı ı	10D1207	טטינטג קריט	11,00	11 A. GZ.0011	-
Bromochloromethane	ND	3.8	. m		ır	Ħ	11	11	
Bromodichloromethane	ND	3.8	ŀr	"	lt.		19	u	
Bromoform	ND	3.8		q	U	1)	11	· n	
Bromomethane	ND	3.8		11	Đ	n	11	u	
n-Butylbenzene	ND	3.8		li .		(T		н	
sec-Butylbenzene	ND	3.8		U	<b>#</b>	ì	n		
			*	"	*	0	и.	1	
tert-Butylbenzene	ND	3.8	9	"	"	rr .			
Carbon tetrachloride	ND	3.8	7	"		0			,
Chlorobenzene	ND	3.8		"	,	0		ı,	
Chloroethane	ND	3.8	"	"	7	ţr			
Chloroform	ND	3.8			77	it.	"	•	
Chloromethane	ND	3.8	11				·	*	
2-Chlorotoluene	ND	- 3.8	14	ıl	π	н.	н		
4-Chlorotolnene	ND	3.8	19	u	v	-			
Dibromochloromethane	ND	3.8	11	ĮI.	19	п	n	14	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number; H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

### Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte	_	orting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method		Notes
				41		rrepared	Analyzed	MICHIOC		Note
MW3-4606-2-15 (0604123-03) Soll	Sampled: 04/06/06 09:40	Rece	eived: 0	4/06/06 16:	00					
1,2-Dibromo-3-chloropropane	ND	3.8	μ <b>g</b> /kg	1	B6D1207	04/10/06	04/11/06	EPA 8260B		
1,2-Dibromoethane (EDB)	ND	3.8		11	19	u	II	l1	×	
Dibromomethane	ND	3.8	T	11	n	π	U	11		
1,2-Dichlorobenzene	ND	3.8	₩.	. 11	ij	n	II .	000		
1,3-Dichlorobenzene	ND	3.8	Ħ	-0	107	W	II)	0		
1,4-Dichlorobenzene	ND	3.8	π	0	н	*	IJ	Ħ		,
Dichlorodifluoromethane	ND	3.8	11	н	11	*	U	"		
1,1-Dichloroethane	ND	3.8	ų	II	II.	#	Ħ	17		
1,2-Dichloroethane	ND	3.8	11	)ı	18	h	7	n .		-
1,1-Dichloroethene	ND	3.8	11	ij.	u	н	*	n V		
cis-1,2-Dichloroethene	12	3.8	19	11	н	<b>b</b> -	*	n n		
trans-1,2-Dichloroethene	ND	3,8	Н	H	Ħ	*	Ħ	tt.		
1,2-Dichloropropane	ND	3.8	rl	•	*	ж ,	n	*		
1,3-Dichloropropane	ND	3.8	н	*1	₩	₩	9	₩ *		
2,2-Dichloropropane	ND	3.8	III	*	Ħ	₹ .	•	₩;-		*
1,1-Dichloropropene	ND	3.8	v	n	U	N	*	n		
cis-1,3-Dichloropropene	ND	3.8	U	U	n	ų.	•	11		
trans-1,3-Dichloropropene	ND	3.8	11		w	11	н	n		
Ethylbenzene	ND	3.8	Ħ	. 10	₩ ***	41	n			
Hexachlorobutadiene	ND	3,8	11	7	W	17	11	•		
Isopropylbenzene	4.4	3.8	Ħ	71	u	b	11	п		
p-lsopropyltoluene	ND	3.8	n	ıl	ıl	п	1r	11	- **	8
Methylene chloride	4.7	3.8	н	N	11	N	Į.	н	• (0)	
Methyl tert-butyl ether	ND	3.8.	n	ч	11	N	ч .	Ji-		
Naphthalene	26	3.8		17	17			17		
n-Propylbenzene	6.1	3.8	W	17	1)	II.	r.	17		
Styrene	ND	3.8	T	11	lı .	a	н	11		
1,1,1,2-Tetrachloroethane	ND	3.8	BI	И	N	ч	er	11		
1,1,2,2-Tetrachloroethane	ND	3.8	ч	ц		•		н		
Tetrachloroethene	ND	3.8	u		h	*	n			
Toluene	ND	3.8	- 97		m	₩	*	н		
1,2,3-Trichlorobenzene	ND	3.8	12		n	19	#	- H		
1,2,4-Trichlorobenzene	ND	3,8	11		a	1)		tu .		
1,1,1-Trichloroethane	ND	3.8	n	a	<b>n</b> .	u	п	)ii		
1,1,2-Trichloroethane	ND	3.8		#	*	11	U	•		
Trichloroethene	4.0	3.8			ti	11	(I	-		
Trichlorofluoromethane	ND	3.8		*	11	41	ч	11		
1,2,3-Trichloropropane	ND	3.8	n.	T	IJ	40	19	n		
1,2,4-Trimethylbenzene	ND	3.8	u.	n	"	0	11	a		
1,3,5-Trimethylbenzene	ND	3.8	11	,,	11	,,	11-	u		
				"			it	" "		
Vinyl chloride	ND	3.8	"	**	"	" .	ti-	**		

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5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

# Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW3-4606-2-15 (0604123-03) Soil	Sampled: 04/06/06 0	9:40 Rec	eived: 04	/06/06 16:	00			,	j
m,p-Xylene	ND	3.8	μg/kg	1	B6D1207	04/10/06	04/11/06	EPA 8260B	
o-Xylene	ND	3.8	tt	91	Nt .	11	11	u	
Surrogate: Dibromofluoromethane		105 %	80-	120	#	,,	"	и	
Surrogate: Toluene-d8		97.9 %	81-		,	**	17	Ħ	
Surrogate: 4-Bromofluorobenzene		99.2 %		121	#	<i>II</i>	#	nt	
MW3-4606-3-25 (0604123-05) Soil	Sampled: 04/06/06 1	0:10 Rec	eived: 04	/06/06 16:	90				
Benzene	ND	5.0	µд/кд		B6D1207	04/10/06	04/11/06	EPA 8260B	
Bromobenzene	ND	5.0	*		*	fF.	N	N	
Bromochloromethane	ND	5.0	₩.	le .	Ħ	11	II	91	
Bromodichloromethane	ND	5.0	#		F	P	N	et e	
Bromoform	ND	5.0	_ <b>H</b> 1		Ħ	b		п	
Bromomethane	ND	5.0	Ħ			D	4	u	
n-Butylbenzene	ND	5.0	и.	м	₩	Ų	•	11	
sec-Butylbenzene	21	5.0	12	77	n		₩	4	
tert-Butylbenzene	ND .	5.0	ıt	17	*	Ħ	*	. N	
Carbon tetrachloride	ND	5.0	10	19	л	,,	#	N	
Chlorobenzene	ND	5.0	п	n	п	u	PT	W	
Chloroethane	ND	5.0	n	11	Ų.	II.	¥		
Chloroform	ND	5.0	я	u	II	u	77	le le	
Chloromethane	ND	5.0	N	© H	bj	н	n		
2-Chlorotoluene	ND	5.0	, N	n	Q.	ur .	17	er .	
4-Chlorotoluene	ND	5.0	7	r	h	ti	11	77	
Dibromochloromethane	ND	5.0	*	**		ч	0.00	<b>4</b>	
1,2-Dibromo-3-chloropropane	ND	5.0	*	P	K	11	н	H	0
1,2-Dibromoethane (EDB)	ND	5.0	#	14	N	"	n	Ŧ	
Dibromomethane	ND	5.0	. 17	U.	•	"	н	n	
1,2-Dichlorobenzene	ND	5.0		U		**	H	Ħ	
1,3-Dichlorobenzene	ND	5.0	н	lf.		11	H	Ħ	
1,4-Dichlorobenzene	ND	5.0	11	IJ		41	Þ	n	
Dichlorodifluoromethane	ND	5.0	- 0 -	Ħ	9	U	71	п	
1,1-Dichloroethane	ND	5.0	н	tr		U	*	Ħ	
1,2-Dichloroethane	ND	5.0	el .	(r	n		*	H	
1,1-Dichloroethene	ND .	5.0			n	u	14	н	
cis-1,2-Dichloroethene	ND	5.0	п	n	D	ĮI.	11	#I	
trans-1,2-Dichloroethene	ND	5.0	P	->- и	11	n	η	ır	
1,2-Dichloropropane	ND	5.0	ìr	",	ıì	ŢI	h	97	*
1,3-Dichloropropane	ND	5.0	u u	π	Ħ	n	IJ	11	
2,2-Dichloropropane	ND	5.0	77	lı	N	* п	11	*	
1,1-Dichloropropene	ND	5.0	II .	11	n	Ą	п	*	
cis-1,3-Dichloropropene	ND	5.0		ц	н	*	ti	*	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

### Volatile Organic Compounds by EPA Method 8260B

Analyte		orting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW3-4606-3-25 (0604123-05) Soil	Sampled; 04/06/06 10:10	Rec	eived: 04	/06/06 16:	00				
trans-1,3-Dichloropropene	ND	5.0	μ <b>g/kg</b>	1	B6D1207	04/10/06	04/11/06	EPA 8260B	
Ethylbenzene	6.9	5.0	n		1	H	11	11	
Hexachlorobutadiene	ND	5.0	r	II;	ii.	p p	Ħ	ж. и	
Isopropylhenzene	31	5.0	P	n	И	π	m	u	
p-Isopropyltoluene	21	5.0	n	н	40	Ħ	=	a	
Methylene chloride	ND	5.0	п	0.	U	п	11	h.	
Methyl tert-butyl ether	ND	5.0	н	0	I.	И	79	n	
Naphthaiene	120	5.0	1)	. 0	п	п	*	0 -	*
n-Propylbenzene	42	5.0	d	fi.	n	п	•	ir .	
Styrene	ND	5.0		н	u	11	₹	n .	
1,1,1,2-Tetrachloroethane	ND	5.0	n	n	н	11	76	0.0	
1,1,2,2-Tetrachloroethane	ND	5.0	n	И	41	N	W -	Ĥ	
Tetrachloroethene	ND	5.0	1)	ıl	11	II	•	0 -	
Toluene	- ND	5.0	u	И	п	II	*	н	in 11
1,2,3-Trichlorobenzene	ND	5.0	19	n	#	IJ	11	ti	
1,2,4-Trichlorobenzene	· ND	5,0	EI	Ħ		II.	ŧ	н	
1,1,1-Trichloroethane	ND	5.0	11	11	7	н	11	Ħ	
1,1,2-Trichloroethane	ND	5.0	lr .	F	₩		11	, ,	
Trichloroethene	ND	5.0	"	9 9	*		17		
Trichlorofluoromethane	ND	5.0	D	*	n	×	ען	#	•
1,2,3-Trichloropropane	ND	5.0	U	Tt .	Ħ	F	11	#	
1,2,4-Trimethylbenzene	130	5.0		7	#	*	IJ	Ħ	
1,3,5-Trimethylbenzene	5.3	5.0	77	11	ij	•	н	T	
Vinyl chloride	ND	5.0	D	ų.	(E) (F)	19	a	*	
m,p-Xylene	6.6	5.0	19	N	II.	*	н	и	
o-Xylene	ND	5.0	п,	п	U	77	"	н	
Surrogate: Dibromofluoromethane	81	.8%	80	-120	" .	п	tr	7	
Surrogate: Toluene-d8	86	5.3 %	81	-117	*	#	e	"	×
Surrogate: 4-Bromofluorobenzene	91	.7%	74	-121	н	r	"	n	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200 Westminster CA, 92683 Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

### Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte	-	erling Limit	Units	Dilution	Batch	Prepared .	Analyzed	Method	Notes
MW3-4606-4-35 (0604123-07) Soil	Sampled: 04/06/06 10:20	Rec	eived: 04	06/06 16:	00			-	
Benzene	ND	250	μ <b>g/k</b> g	50	B6D1207	04/10/06	04/11/06	EPA 8260B	
Bromobenzene	ND	250	"	11	न	N.	п		
Bromochloromethane	ND	250	p	11	<b>#</b>	ıl	Ħ	IF.	
Bromodichloromethane	ND	250	19	u	19	It	N .	D D	
Bromoform	ND	250	11	n	m	Û	w	н *	
Bromomethane	ND	250	1/	tr	n	ll.	N	(c	
n-Butylbenzene	ND	250	U	9	19	п	₩	п	
sec-Butylhenzene	1400	250	п	u	11		17	II.	*
tert-Butylbenzene	ND	250		11	· y. ·	*		4	
Carbon tetrachloride	ND	250	u	11	11	ħ	*	U	-1-
Chlorobenzene	ND	250	a	9	0.	#	19		
Chloroethane	ND	250	ti	11	18	H	0 p		
Chloroform	. ND	250	11	**	.0-	u u	*	**	
Chloromethane	ND	250		18	н	#	4	•	
2-Chlorotoluene	ND	250		II.	u	н	11	11	
4-Chlorotoluene	ND	250	0	u	н	÷ н	19	11	
Dibromochloromethane	ND	250	10	lr.	-	el	Ü	11	
1,2-Dibromo-3-chloropropane	ND	50	11	10	*	ų.	0	11	H-0
1,2-Dibromoethane (EDB)	ND	250	**	50	*	N	н	11	H-0
Dibromomethane	ND	250	101	(1	₩	41	9.1	n	
1,2-Dichlorobenzene	ND .	250	in .	u	*	ų.	0.0	11	
1,3-Dichlorobenzene	ND	250	ñ	lı	*	4	.10	11	
1,4-Dichlorobenzene	ND	250	44	'n	*	W	N	0	
Dichlorodifluoromethane	ND	250	π	Ħ	ir .	•	*	v	
1,1-Dichloroethane	ND	250	₩.	7	7		т п	II.	
1,2-Dichloroethane	ND	250	w		IP.	H	π	Ð	
1.1-Dichloroethene	ND	250	*	W	P	Ħ	Ħ	ų	
cis-1,2-Dichloroethene	ND	250	71	7	π	P	*		
trans-1,2-Dichloroethene	ND	250	**	w	U	Rt.	*	*	
1,2-Dichloropropane	ND	250		п	ĮI.	н	*	ŧi	
1,3-Dichloropropane	ND	250	n	1)	Ħ	ш	и	**	
2,2-Dichloropropane	ND	250	и	ji .	н	¥	п	· •	
1,1-Dichloropropene	ND	250	н	н	D	IJ	п	п	
cis-1,3-Dichloropropene	ND	250	ш	ır	II	u	u	•	
trans-1,3-Dichloropropene	ND	250	,ji	ır	III	u	u	11	
Ethylbenzene	ND	250	u		jt.	11	II.	π.	•
Hexachlorobutadiene	ND	250	17	×	tt (t	11	li .	*	
Isopropylbenzene	1700	250	11	=	v	11	N	'n	
p-Isopropyltoluene	280	250	ĸ	r		II.	N	1)	
Methylene chloride	ND	250	ir	π	n	li-	N	11	
Methyl tert-butyl ether	ND	250	×	17	R	P	Į.	II.	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

# Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
						Trepared	Analyzed	Mistrod	14016.
MW3-4606-4-35 (0604123-07) Soil									
Naphthalene	6000	250	µg/kg	50	B6D1207	04/10/06	04/11/06	EPA 8260B	
n-Propylbenzene	2100	250	Ħ	#	Ħ	Ħ	94	lr.	
Styrene	ND	250	0 :	* #	7	#	7	и -	
1,1,1,2-Tetrachloroethane	ND	250	н	•	ii.	я		н	
1,1,2,2-Tetrachloroethane	ND	250	ű	π	(I	*	•	н	
Tetrachloroethene	ND	250	U	Ħ	h	1F	0	u	
Toluene	ND	250	U	n	n	ч	D	ti ®	
1,2,3-Trichlorobenzene	ND	250	U	н	II.	11	Ħ	u	
1,2,4-Trichlorobenzene	ND	250	17	n	19	9 1	ŧr	11	
1,1,1-Trichloroethane	ND	250	H	ij	7		Ħ		
1,1,2-Trichloroethane	ND	250		h	у	II	H	*	•
Trichloroethene	ND	250	**	. 11	•	11	W	*	- 11
Trichlorofluoromethane	ND ND	250	T	TI	*	1)	н	<b>T</b>	
1,2,3-Trichloropropane	ND	250	W	11	11		1r	77	p.,
1,2,4-Trimethylbenzene	1500	250		19	11		11	W	
1,3,5-Trimethylbenzene	ND	250	и	17	ur .	н	11	*	
Vinyl chloride	ND	250	Ħ	17			11	71	
m,p-Xylene	ND	250	7	17	u	h	н	u -	
o-Xylene	ND	250	1r		N	11		ii ii	
Surrogate: Dibromofluoromethane	· · · · · · · · · · · · · · · · · · ·	96.1 %	80-	120	*	- 11	u	· · · · · ·	
Surrogate: Toluene-d8		97.6 %		117	,,	**	"	•	. '
Surrogate: 4-Bromofluorobenzene		101 %		121	n	*	11	,,	•
	a in allegance				••			٠.	
MW4-4606-1-10 (0604123-09) Soil			eived: U4	/06/06 16:	90				*
Benzene	ND	4.2	μg/kg	* 1	B6D1207	04/10/06	04/11/06	BPA 8260B	
Bromobenzene	ND	4.2		*	н	Ħ	U	U	
Bromochloromethane	ND	4.2		"	**	н	D		
Bromodichloromethane	ND	4.2	*	u	19	11	n		. 18
Bromoform	ND	4.2	41	. 0	Ħ	- ñ	17		
Bromomethane	ND	4.2	Ħ	u	r,	- 11	n	₩	
n-Butylbenzene	8.1	4,2	u	H	11	n	н	19	
sec-Butylbenzene	47	4.2	И.:	н	11	"	н	*	
tert-Butylbenzene	4.5	4.2	ų	N	11	IJ	195	¥f	
Carbon tetrachloride	ND	4.2	1)	н	11	U	100	*	
Chlorobenzene	ND	4.2	**	п	P	*	H	11	
Chloroethane	ND	4.2	pl .	п	Jr.	17	IP	41	
Chloroform	ND	4,2	p)	п	It	*	Ut	9	
Chioromethane	ND	4.2	н	ш	ır	Ħ	u	9	
2-Chlorotoluene	ND	4.2	н	D	71	•	Ħ	н	
4-Chlorotoluene	ND	4.2	е	n	7	7	*	n	
	-te 3								



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

### Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte	_	rring Limit	Unita	Dilution	Batch	Dramanal	A mulaura	Man-1	Not
						Prepared	Analyzed	Method	Nou
MW4-4606-1-10 (0604123-09) Soil	Sampled: 04/06/06 13:20	Rec	eived: 04	/06/06 16:0	00				
1,2-Dibromo-3-chloropropane	ND	4.2	μ <b>g/kg</b>	1	B6D1207	04/10/06	04/11/06	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	4.2	π	n	*	H	יו	u	
Dibromomethane	ND	4.2	N	н	*	JI	11	ti .	
1,2-Dichlorobenzene	ND	4.2	N	11	p	. 0	IF	4	
1,3-Dichlorobenzene	ND	4.2		u	71	Ut.	11	41	
1,4-Dichlorobenzene	ND	4,2	H	Œ	19	U	ĮI.	11	
Dichlorodifluoromethane	ND	4.2	я	, H	11	U	H	11	
1,1-Dichloroethane	ND	4.2	U	न	11	ij	ĮI.	11	
1,2-Dichloroethane	ND	4.2	11	77	D	ti		-0	
1,1-Dichloroethene	ND	4.2	n	\$7	h	a	К	Į.	
cis-1,2-Dichloroethene	69	4.2	77	₩	<b>n</b>	11	×	II.	
trans-1,2-Dichloroethene	42	4.2		11	4	π	P	n	
1,2-Dichloropropane	ND	4.2		11	74	¥	*	н	
1,3-Dichloropropane	ND	4.2	h	li .	71	*	47		
2,2-Dichloropropane	ND	4.2	: #	8 #	11	π	ij	11	
1,1-Dichloropropene	ND	4.2		"	11	TÎ.	n	.7	
cis-1,3-Dichloropropene	ND	4.2	п	h	и	n	n	rt	
trans-1,3-Dichloropropene	ND	4.2	M	a	re .	IJ	11	if.	
Ethylbenzene	2600	210	w	50	H	41	11	PT .	
Hexachlorobutadiene	ND	4.2	n	1	•	11	И	Ħ	
Isopropylbenzene	110	4.2	ţi.	77	н	11	l1	*1	
p-Isopropyltoluene	4.2	4.2	tı	*	u	**	Ħ	9	
Methylene chloride	ND	4.2	11	**		19	H	11	
Methyl tert-butyl ether	ND	4,2	*		n	11	н	11	
Naphthalene	6.2	4.2	*	II	4	h -0	- Pt	11	
n-Propylbenzene	130	4.2		11	*	Н	I,	h	
Styrene	4.4	4.2	и	u	<del>7</del>	я	U	n	
1,1,1,2-Tetrachloroethane	ND	4.2	IJ		*	Ħ	D	7	
1,1,2,2-Tetrachloroethane	ND	4.2	11	#	v	11	91	h	
Tetrachloroethene	4200	210	11	50	n	II.	11	H	
Toluene	ND	4.2	D D	1	rı	n	*		
1,2,3-Trichlorobenzene	ND	4.2	11		17	н	*	*	
1,2,4-Trichlorobenzene	ND	4.2	u	Ú	ır	· • •	*	tr .	
1,1,1-Trichloroethane	ND	4.2		n	11		11	rr	
1,1,2-Trichloroethane	ND	4.2	#	11	Û	м	11	D	
Trichloroethene	89	4.2	11	11	u		п	19	
Trichlorofiuoromethane	ND	4.2	W	ш	ų.	*	п	11	
1,2,3-Trichloropropane	ND	4.2	11	ш	u	¥	11	79	
1,2,4-Trimethylbenzene	ND	4,2		II II		H	17	W	
1,3,5-Trimethylbenzene	ND	4.2		п	*	Ħ	ч	я	
Vinyl chloride	73	4.2	ri	*	*	h	17	71	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

## Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte	Result	orting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW4-4606-1-10 (0604123-09) Soil	Sampled: 04/06/06 13:2	Rec	elved: 04	/06/06 16:	00	1	· ,		, ,
n,p-Xylene	ND	4.2	μg/kg	1	B6D1207	04/10/06	04/11/06	EPA 8260B	
o-Xylene	ND	4.2	п	) i	II .	y.	2.9	# .	
Surrogate: Dibromofluoromethane		01 %	80-	120	"	m	p	"	
Surrogate: Toluene-d8		7.4%		117	'n		#		
Surrogate: 4-Bromofluorobenzene		12%		121	**	r.	P	н .	
MW4-4606-2-15 (0604123-11) Soil	Sampled: 04/06/06 13:2	Rec	eived: 04	/06/06 16:	00			,	
Benzene	ND	4,3	μ <b>g/kg</b>	1	B6D1207	04/10/06	04/11/06	EPA 8260B	
Bromobenzene	ND	4.3	"	. 4	#	17	11	b	
Bromochloromethane	ND	4.3	н	m	₩.	19	17	, r	
Bromodichloromethane	ND	4.3		*	π	I)	Jr .	H-	
Bromoform	ND	4.3	77	π	n	D	Jr.		0
Bromomethane	ND	4.3	*	*	n	Į#	I!	u .	
n-Burylbenzene	ND	4.3	*	yı	11	U	er	N	
sec-Butylbenzene	29	4.3	71	п	11	11	7	ч	
ert-Butylbenzene	ND	4.3	ч	11	DF	11	e u	11	
Carbon tetrachloride	ND	4.3	h	N	0	11	41	41-	
Chlorobenzene	ND	4.3	JI.	Θ 4	e	7	π	17	. 0
Chloroethane	ND	4.3	п	u u	11		II	19	
Chloroform	ND .	4.3	ų.	11	11	Ħ		11	
Chloromethane	ND	4.3	11	17	. "	×	Ħ	16	,
2-Chlorotoluene	ND	4.3	11	ų	11	7	H	И	9.
4-Chlorotoluene	ND	4.3	ı	17	11	lt!		*	
Dibromochloromethane	ND	4,3	.00	19	16	n	н	h	
1,2-Dibromo-3-chloropropane	ND	4.3	. "	11	16	t)	n		
1,2-Dibromoethane (EDB)	ND	4.3	И	11	ıţ	41	9	N	
Dibromomethane	ND	4.3		ĮI.	IF	11	11	и	*
1,2-Dichlorobenzene	ND	4.3	H,	н	"	11	41	. ,	
1,3-Dichlerobenzene	ND	4.3	R	Ħ		11	11	. P	
1,4-Dichlorobenzene	ND	4.3	-	Ħ	n	п	11	*	
Dichlorodifluoromethane	ND	4.3	77	<b>π</b>	π.	II .	ìr	n	
1,1-Dichloroethane	14	4.3	n	Ħ	n	ti .	ır	ų.	
1,2-Dichloroethane	ND	4.3	b	19	11	ш	tt		
1,1-Dichloroethene	7.4	4.3	n	n	н	= 44	er er	u	
cis-1,2-Dichloroethene	400	220	n	50	II .	7	a	11	4.
trans-1,2-Dichloroethene	360	220	u	1)	h	77	11	11	
1,2-Dichloropropane	ND	4.3	"	1	u	*	ħ	11	
1,3-Dichloropropane	ND	4.3	ч	u	u	*	₩	. 11	-
2,2-Dichloropropane	ND	4.3	ч	ш	11	*	*	11	
1,1-Dichloropropene	ND	4.3	14	10	u		*	16	
cis-1,3-Dichloropropene	ND	4.3	19	п	11				



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

## Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

	•	orting	- 12 V	One of				200.2	
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW4-4606-2-15 (0604123-11) Soil	Sampled: 04/06/06 13:20	Rec	eived: 04	/06/06 16:	00				
trans-1,3-Dichloropropene	ND	4.3	μg/kg	1	B6D1207	04/10/06	04/11/06	EPA 8260B	
Ethylbenzene	150	4.3	π	17	11	Œ	#		
Hexachloroburadiene	ND	4.3	39	19	11	а	Ħ	D	
Isopropylbenzene	73	4.3	n	1)	11	U	74	10	
p-Isopropylioluene	ND	4.3	. "	. 11	11	*	17	11	
Methylene chloride	ND	4.3		11	11	11	n	11	
Methyl ten-butyl ether	ND	4.3	JI .	U	()	IJ	7	br .	
Naphthalene	28	4,3	× II	u	11	u	11	п	
n-Propylbenzene	92	4.3	* 11	r r	U U	<b>H</b>	Ħ	41	
Styrene	ND	4.3	ų.	Ħ	u	u	u	dt.	
1,1,1,2-Tetrachloroethane	ND	4,3	41	n	0	"	п	¥P	
1,1,2,2-Tetrachloroethane	ND	4.3	11	a a	(1	11	II .	TP	
Tetrachloroethene	6700	220	U	50	U	**	II .	II.	
Toluene	ND ·	4.3	17	1	II .	11	<i>R</i> · ·	17	
1,2,3-Trichlorobénzene	ND	4.3	ir	u	u	Ir .		R	
1,2,4-Trichlorobenzene	ND	4.3	11	11	n	h	н	*	
1,1,1-Trichlorocthane	ND	4,3		u	el	ıı	н	•	
1,1,2-Trichloroethane	ND	4.3		11	*	b	Ħ		
Trichloroethene	260	220		50	N-00-	II .	ĸ	*	
Trichlorofluoromethane	ND	4.3	н	1	*	"	R	*	
1,2,3-Trichloropropane	ND	4.3	*	11	W	n		n	
1,2,4-Trimethylbenzene	ND	4.3	π	11	#	M	•	н	
1,3,5-Trimethylbenzene	ND	4.3	"		1r	u	*	'n	
Vinyi chloride	470	220	u	50	II.	9	*	11	
m,p-Xylene	ND	4.3	**	1	Į.	16	•	n	
o-Xylene	ND	4.3	11	D	Ů.	**	77	h	
Surrogate: Dibromofluoromethane	1	00 %	80-	-120	4	"	н	"	
Surrogate: Toluene-d8	1	00 %	81-	-117	,,	"	ff	*	
Surrogate: 4-Bromofluorobenzene	1	06%	74-	-121	#	*	r	#	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

## Volatile Organic Compounds by EPA Method 8260B

#### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting	Tresion	Dilution.	Batch	Disco see a	Amelowani	Madera	**
		Limit	Units	1414		Prepared	Analyzed	Method	Not
WW4-4606-3-25 (0604123-13) Soll	Sampled: 04/06/06 1	3:37 Rec	eived: 04	/06/06 16:1	00				
Benzene	ND	4.3	μg/kg	1 -	B6D1207	04/10/06	04/11/06	EPA 8260B	
Bromobenzene	ND	4.3	77	11	11	π	u u	D	
Bromochloromethane	ND	4.3	- 11	n	11	M	II .	IJ	
Bromodichloromethane	ND	4.3	71	11	Jî	#	÷- ff	. "	
Bromoform	ND	4.3	n '	Н	н	•	ur *	11	
Bromomethane	ND	4.3	u	Н	И	#	tr.	u.	
-Butylbenzene	ND	4.3		и	н	Ħ	46	9	
ec-Butylbenzene	14	4.3	ш	11	H		11	11	
ert-Butylbenzene	ND	4.3	11	. "	и	n	#	. 11	
Carbon tetrachloride	ND	4,3	"	D	Ð	Big	=	11	•
Chlorobenzene	. ND	4.3	**	Ð	II.	n	Ħ	11	
Chloroethane	ND	4.3	11	II.	D	7	•	111	
Chloroform	ND	4.3	11	n *	U	π	н	н	
Chloromethane	ND	4.3	H	ч	н	*		n	
-Chlorotoluene	ND	4.3	h	ĸ	tı	*	P	n ·	
-Chlorotoluene	ND	4.3	U	7	ŢĪ.	74	9		
Dibromochloromethane	ND	4,3	II		*	· #	79	п 🐣	
,2-Dibromo-3-chloropropane	ND	4.3	u			И	W	a	7
,2-Dibromoethane (EDB)	ND	4.3	Iţ	IF		ц	91	u*	
Dibromomethane	ND	4.3	н	п	n	•		T	100
,2-Dichlorobenzene	ND	4.3		'n	P	11	н	π	
,3-Dichlorobenzene	ND	4.3		***	н	11	n	*	× *
,4-Dichlorobenzene	ND	4,3	TI	11	11	17	11	Ħ	
Dichlorodifluoromethane	ND	4.3	п	7 1	7	* 4	11	n	
,1-Dichloroethane	ND	4.3	ų	1	78	ıl	11	ıı	
,2-Dichloroethane	ND	4,3	*	₩.	* 1	h	AC.	U	
,1-Dichloroethene	ND	4.3	м	-M	91			n -	
is-1,2-Dichloroethene	ND	4.3		m		4	п	<b>H</b> 2 4.	
rans-1,2-Dichloroethene	ND	4.3	- 6	Ħ	н		0-	0 m	*
,2-Dichloropropane	ND	4.3	•1	U.	Ħ		н	m m	
,3-Dichloropropane	ND	4.3	41	47	41	n			
,2-Dichloropropane	ND	4.3	16	v	Đ	ø	h	н	
,1-Dichloropropene	ND	4.3	1/	II.	**	ч	W	ч	
is-1,3-Dichloropropene	ND	4.3	0	D	11	77	•	ur .	
rens-1,3-Dichloropropene	ND	4.3	v	II.	11	w	**	1)	
Cthylbenzene	35	4.3	u	п	ıı	77	**	19	
Hexachiorobutadiene	ND	4.3	44	п	*	Ħ	π	11	
sopropylbenzene	26	4.3	π	<b>T</b>		п	11	11	
-lsopropyltoluene	23	4.3	16	H	ń	"	1		
Methylene chloride	ND	4.3				u			
Methyl tert-butyl ether	ND ND	4.3	,			"			



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200 Westminster CA, 92683

Project: APC
Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

# Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte	Result	Report	ing mit	Units	Dilution	Batch	Prepared	Analyzed	Method	Not
							Liebaren	Anaryzen	Montog	NO
MW4-4606-3-25 (0604123-13) Soil	Sampled: 04/06/06 13	:37	Rece	eived: 04/0	6/06 16:0	00				
Naphthalene	63		4:3	μg/kg	1	B6D1207	04/10/06	04/11/06	EPA 8260B	
n-Propylbenzene	21	4	4.3	*	ч	П	#	₩.	H	
Styrene	ND	4	4.3	**	*	n	Ħ	•	*	
1,1,1,2-Tetrachloroethane	ND	4	4.3	44	D	H	и	16		
1,1,2,2-Tetrachloroethane	ND	4	4.3	4	D.	И	11	N.	11:	
Tetrachloroethene	25	4	4.3	₹	11.	Ħ	U	U	49	
Toluene	ND	4	4.3	, <b>11</b>	- It	ч	0	. 4	٩r	
1,2,3-Trichlorobenzene	ND	2	4.3	Ħ	0	, н	ш	N	49	
1,2,4-Trichlorobenzene	ND	4	4.3	*	16	ri	U.	41	ч	
1,1,1-Trichloroethane	ND		4.3	11	H	7	M	n	Hr	
1,1,2-Trichloroethane	ND		4.3	* ti	n,	ч .	II.	11	п	-
Trichloroethene	ND		4,3	Nr.	rt e	11	FI	. 11	н	
Trichlorofluoromethane	. ND		4.3	II.	*	TP	ñ	16	Id	
1,2,3-Trichloropropane	ND		4.3	п		12	je -	11	н	
1,2,4-Trimethylbenzene	10		4.3	h h	P	n	11	11	41	
1,3,5-Trimethylbenzene	120		4.3	п	N,	29	e	H	н	
Vinyl chloride	ND		4.3	N	W	11	ı)	17	u	
m,p-Xylene	66		4.3		•	9	11	н	U	
o-Xylene	ND		4.3	N	R	**	U	н	n	
Surrogate: Dibromofluoromethane		100	1%	80-1	20	, ,	<i>n</i>	T T	"	
Surrogate: Toluene-d8		98.1		81-1		μ	H	rt	*	
Surrogate: 4-Bromofluorobenzene	*	102		74-1			u	#	"	
MW4-4606-4-35 (0604123-15) Soil	Sampled: 04/06/06 13					00				
Benzene	5.5		4.2	<b>н</b> Б∖ <b>к</b> Б	1	B6D1207	04/10/06	04/11/06	EPA 8260B	-
Bromobenzene	ND		4.2	ii henre	11	11 (42)	(-1/10/00 ₩	W-1, 11,00	- 11	
Bromochloromethane	ND		4.2	u u	e e	н		11	11	-
Bromodichloromethane	ND		4.2	u u	1)	p 8		11	11	
Bromoform	ND		4.2	1)	u	Ħ	Ħ	11	9	
Bromomethane	ND		4.2	11	v	ıř	ĸ	"	ч	
n-Butylbenzene	ND		4.2	H		47	11	lı.	"	
sec-Butylbenzene	78		4.2	Pr .			-0	,,	R	
tert-Butylbenzene	ND		4.2	rl		a			"	
Carbon tetrachloride								"	"	
	ND		4.2				"			
Chlorobenzene .	ND		4.2	и		n	11			
Chloroethane	ND		4.2	**	_	11	"	π _	π·	
Chloroform	ND		4.2	* *	#	'n			<del>"</del>	
Chloromethane	ND		4.2							
2-Chlorotoluene	ND		4.2	*	le .		0	II'	и	
4 474 1										
4-Chlorotoluene Dibromochloromethane	ND ND		4.2 4.2	*	₹	19	"	ir tr	, "	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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5455 Garden Grove Blvd. Suite 200

Wesiminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

## Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte		erting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW4-4606-4-35 (0604123-15) Soil	Sampled: 04/06/06 13:55					k	3-100		
	-	_				04/10/07	0411106	PD4 P0 (4P)	
1,2-Dibromo-3-chloropropane	ND ND	4.2 4.2	µg/kg *	1	B6D1207	<b>04</b> /10/06	04/11/06	EPA 8260B	
1,2-Dibromoethane (EDB)	ND				"		n		
Dibromomethane	ND	4.2	10	,	a a		 W		
1,2-Dichlorobenzene	ND	4.2	n	u	 P	n u	, 1t		-
1,3-Dichlorobenzene 1,4-Dichlorobenzene				и		11	11	11	
	ND	4.2		n		11	u	11	
Dichlorodifluoromethane	ND		7	11	· ·		. н		,
1,1-Dichloroethane	ND	4.2	π		2.8	⇔ "	11		
1,2-Dichloroethane	ND	4.2	71 Nr	** "	,	. 11		10	-
1,1-Dichloroethene	ND	4.2	η	rı		r v	n	h	-
cis-1,2-Dichloroethene	6.4	4.2	"	*	19		"		
trans-1,2-Dichloroethene	5.8	4.2		9	11	11	"	"	∞-
1,2-Dichloropropane	ND	4.2	D		11	11	* -	"	
1,3-Dichloropropane	ND	4.2	11	II.	-	ш	<del>"</del>	#	
2,2-Dichloropropane	ND	4.2	11	ır	н	II .	₩	*	
1,1-Dichloropropene	ND	4.2	11	II .	"	n	н	π	
cis-1,3-Dichloropropene	ND	4,2	"	(r	FI	U	-	n n	
trans-1,3-Dichioropropene	ND	4.2	"	77	n	97	U	u	
Ethylbenzene	41	4.2	"	*	U	Я	n n	"	
Hexachlorobutadiene	ND	4.2	"	7	0	h	10	D	
Isopropylbenzene	160	4.2	M	н	R.	h	п	71	
p-Isopropyltoluene	ND	4.2	IP.	#		Ħ	11	₩	
Methylene chloride	ND	4.2	"	II II	*	п	•	4	
Methyl tert-butyl ether	ND	4.2	Ħ	Ħ	*	*1	41	17	
Naphthalene	4,4	4.2	11	H	*	•	10	11	
n-Propylbenzene	130	4.2	#	¥	H	Ħ		u	
Styrene	ND	4.2	4	11	ti o	11	U	ri .	-
1,1,1,2-Tetrachloroethane	ND	4.2	- 4	41	H	u	н	ш	*
1,1,2,2-Tetrachloroethane	ND	4.2	0	11	in	II	И	II	
Tetrachloroethene	720	210	h	50	Ħ	11	14	11	
Toluene	ND	4.2	п	1	19	11		11	
1,2,3-Trichlorobenzene	ND	4.2	u	п	-11	11	H	n	
1,2,4-Trichlorobenzene	ND	4.2	h	ıı	- 0	'n	*	F	-
1,1,1-Trichloroethane	ND	4.2	п	n	N	0	**	Ħ	-8
1,1,2-Trichloroethane	ND	4,2	11	tr		W	4	π	
Trichloroethene	22	4.2	v	w	н	N	11	∞ <b>q</b> ∞	0
Trichlorofluoromethane	ND	4.2		-	n	PF	ш	U	
1,2,3-Trichloropropane	ND	4.2	Ħ	*	r	II	h	n	
1,2,4-Trimethylbenzene	4.8	4,2	P	ч		ŋ	n	'n	
1,3,5-Trimethylbenzene	ND	4.2	н	u	*	**	11	11	
Vinyl chloride	ND	4.2		и	*		11	11	-



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki Reported: 04/24/06 15:46

# Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW4-4606-4-35 (0604123-15) Soil	Sampled: 04/06/06 1	3:55 Rec	eived: 04/	06/06 16:	00				17. 1
m,p-Xylene	ND	4.2	μg/kg	1	B6D1207	04/10/06	04/11/06	EPA 8260B	
o-Xylene	ND	4.2	Ħ	Ŋ	Ü	16	ft	p	
Surrogate: Dibromofluoromethane		99.5%	80-	120	N	#	#	. n	
Surrogate: Toluene-d8	- 1	98.3 %	81-		H	н	n,	p.	
Surrogate: 4-Bromofluorobenzene		108 %	74-		*	*	л	и	
FB 4606 (0604123-17) Liquid Sa	mpled: 04/06/06 14:50	Received	: 04/06/06	16:00					-
Benzene	ND	1.0	μg/L	1	B6D1044	04/10/06	04/10/06	EPA 8260H	*
Bromobenzene	ND	1.0		п	•	tt .	ч	•	
Bromochloromethane	ND	1.0	H	н		II.	N	1	
Bromodichloromethane	ND .	1.0	the fi	n	D	ir	11	P	
Bromoform	ND	1,0	η -	*	ij	P	11	17	
Bromomethane	ND	5.0	11	77	ų.	11	17	1r	
n-Butylbenzene	ND	1.0	. 11	77	н	11	9	17	0.0
sec-Butylbenzene	ND	1.0		11	Ð	9	et	"	
tert-Butylbenzene	ND	1.0		11	**	¥	r	n	
Carbon tetrachloride	ND ND	1.0	н	10	11	F _	ч	n	
Chlorobenzene	ND	1.0	11	10	11	H	#	#	
Chloroethane	ND	5.0	ч	rı	11	IT	**	t†	
Chloroform	ND	1.0	*	r	11	η	#	Ħ	
Chloromethane	ND	5.0	*	11	ĮI.	ţi.		*	
2-Chlorotoluene	ND	1.0	*	n	ĸ	(1	79	77	
4-Chlorotoluene	ND	1.0	11	**	#	н	in.	11	
Dibromochloromethane	ND	1.0	14	11	17	Ŋ	-00	11	
1,2-Dibromo-3-chloropropane	ND	5.0	11	Į,	ग	ır	in.	11	
1,2-Dibromoethane (EDB)	ND	1.0	- 1	u	77	17	. 0	11	
Dibromomethane	ND	1.0	н	u	19	tr	"	0	
1,2-Dichlorobenzene	ND	1.0	"	ler .	и	II.	H	"	
1,3-Dichlorobenzene	ND	1.0	, P	₩.	п	* "	И	11	
1,4-Dichlorobenzene	ND	1.0	U	₩	u	a	(r	III	
Dichlorodifluoromethane	ND	5.0	D	11	Я	•	n	Ħ	
1,1-Dichloroethane	ND	1.0	n	71	"	"	II .	19	
1,2-Dichloroethane	ND	1.0	u	0-	R	*	41	11	
1,1-Dichloroethene	ND	1.0		Ħ	o u	•	11	u	
cis-1,2-Dichloroethene	ND	1.0	W	И	μ	*	-	н .	
trans-1,2-Dichloroethene	ND	1.0	•	FF	u	н	*	n	
1,2-Dichloropropane	ND	1.0	*	DF	n	U	¥	W	
1,3-Dichloropropane	ND	1.0	m	II.	#	ч	¥	Ħ	
2,2-Dichloropropane	ND	1.0	п	#	ti.	п	I)	4	
1,1-Dichloropropene	ND	1.0	0	19		п	IJ	v	
cis-1,3-Dichloropropene	ND	1.0	п	n	4	N	TF	11	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Surrogate: Toluene-d8

Surrogate: 4-Bromofluorobenzene

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

## Volatile Organic Compounds by EPA Method 8260B Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
FB 4606 (0604123-17) Liquid	Sampled: 04/06/06 14:50	Received	: 04/06/0	6 16:00				:	
trans-1,3-Dichloropropene	ND	1,0	μ <b>g/L</b>	1	B6D1044	04/10/06	04/10/06	EPA 8260B	
Ethylbenzene	ND	1.0	At	17	41	П		п	
Hexachlorobutadiene	ND	1.0	a	tr.	li .	ħ	н	· w	
Isopropylbenzene	ND	1.0	U	4	ল	ij	п	Ħ	
p-Isopropyltoluene	ND	1.0	in	п	11	Ħ	e	ч	
Methylene chloride	ND	1.0	#	II	49		*	и	
Methyl tert-butyl other	ND	1.0	*	יו	ч			¥	
Naphthalene	ND	1.0			п	п	#	W	
n-Propylbenzene	ND	1.0	ĮI.	*	P	D	H		
Styrene	ND	1.0	N	*	17	*		li .	
1,1,1,2-Tetrachloroethane	ND	1.0	If	Ø	N	#	Ħ	U	
1,1,2,2-Tetrachloroethane	ND	1.0	11	17	м	₩.	*	11-	
Tetrachloroethene	ND	1.0	4	P	и	7	п	ŧt	
Toluene	ND	1.0	P	*	b	u	u	н	
1,2,3-Trichlorobenzene	ND	1.0		₩	7	H	ly .	н	
1,2,4-Trichlorobenzene	ND	1.0	п		<b>"</b>	π	v	D -	
1,1,1-Trichloroethane	ND	1.0	N	ħ		*	Ħ	Ħ	
1,1,2-Trichloroethane	ND	1.0	п	п	W	**	11	Ti Ti	
Trichloroethene	ND	1,0	U.	n	и ,	11	11	*	
Trichlorofluoromethane	ND	5.0	n	п	π	41	ч	Ħ	
1,2,3-Trichloropropane	ND	5.0	7	11	P.		N	W	
1,2,4-Trimethylbenzene	, ND	1.0	49	n	19	00	н	#	
1,3,5-Trimethylbenzene	ND	1.0	11	9	Ħ	11	ш.,	۳.	
Vinyl chloride	ND	5.0	, п	п	11		D	М	
m,p-Xylene	ND	1.0	h	(n)	11	It	lj.	n	
o-Xylene	ND	1.0	<u>.</u> 11	H	ĮI.	9	IF	n	
Surrogate: Dibromofluorometh	ane	102 %	86	-118	μ	"	w.	*	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

99.0%

97.6%

88-110

86-115



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

# Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
EB 4606 (0604123-18) Liquid	Sampled: 04/06/06 15:00	Received	: 04/06/0	6 16:00					
Benzene	ND	1.0	μg/L	1	B6D1044	04/10/06	04/10/06	EPA 8260B	
Bromobenzene	ND	1.0	н	"	0	e,	D	44	
Bromochloromethane	ND	1.0	h	11	44	H		#	
Bromodichloromethane	ND	1.0	h	*	9	b	10	и	
Bromoform	ND	1.0	-11	*	77	11	1)	u	
Bromomethane	ND	5.0	ii -	*	r,	μ	11	<u>.</u> (1	
n-Butylbenzene	ND	1.0	Ti.	*	e	II.	n	и -	
sec-Burylbenzene	ND	1.0	Н	#	O	ır	\$1	н	
tert-Butylbenzene	ND	0.1	H	*	h	lr .	<b>1</b> 1	и	
Carbon tetrachloride	ND	1.0	ur .		ш	ĸ	•	n	
Chlorobenzene	ND	1.0	IT	*	Ų	14	₩	0	
Chloroethane	ND	5.0	11		II .	1*		tt	
Chloroform	ND	1.0	н	₩	ч	10		r)	
Chloromethane	ND	5.0	II .		H	ır	#	н	
2-Chlorotoluene	ND	1.0	u	***************************************	IP.	ıl	11	Ħ	
4-Chlorotoluene	ND	1.0		19	II	IF.	11	Ħ	
Dibromochloromethane	ND	1.0	н	11	4	IL.	11	Ħ	
1,2-Dibromo-3-chloropropane	ND	5.0	n	ų	п	(F	11	#	
1,2-Dibromoethane (EDB)	ND	1.0	п	II.	н	14	16	π	
Dibromomethane	ND	1.0		, 0		ĸ	11	π	
1,2-Dichlorobenzene	ND	1.0	ur .	h	П	jì .	U	18	
1,3-Dichlorobenzene	ND	1.0	17	а	н	JI	н	п	
1,4-Dichlorobenzene	ND	1.0	41	Ħ	et	U	11	u	
Dichlorodifluoromethane	ND	5.0	ų	u	76	ţI.	n	· u	
1,1-Dichloroethane	ND	1.0	16		**	и	a	н	
1,2-Dichloroethane	ND	1,0	M	D	ų.	H	1)	11	
1,1-Dichloroethene	ND	1.0		η	u	rt	ŋ	tı	
cis-1,2-Dichloroethene	ND	1.0	m	d *	11	11	h		
trans-1,2-Dichloroethene	ND	1.0	11	ĮI.	13	11	D	**	
1,2-Dichloropropane	ND	1.0		hi.	9	ы	1)	11	
1,3-Dichloropropane	ND	1.0	FF	ы	II.	•	л	Ħ	
2,2-Dichloropropane	ND	1.0		и	п	19	11	н	
1,1-Dichloropropene	ND	1.0	eş	и	H		FP	n	
cis-1,3-Dichloropropene	ND	1.0	77	h	U	19	rr .	n	
trans-1,3-Dichloropropene	ND	1.0	н	11	tr.	#	ti	ıı .	
Ethylbenzene	ND	1.0	н	II.	IJ	*	н	"	
Hexachlorobutadiene	ND	1.0	-11	π	11	٠,	11	*	
Isopropylbenzene	ND	1.0	di.	п	11	91		#	
p-Isopropyltoluene	ND	1.0	0	#		П	fr.	₩	
Methylene chloride	ND	1.0	-0		1)	•	**	π	
Methyl tert-butyl ether	ND ND	1.0	11	*	Ħ	71	**	TP	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

### Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method		Note
EB 4606 (0604123-18) Liquid	Sampled: 04/06/06 15:00	Received	: 04/06/0	6 16:00						
Naphthalene	ND	1.0	μg/L	1	B6D1044	04/10/06	04/10/06	EPA 8260B		
n-Propylbenzene	ND	1.0	И	a	*	11	44	а		
Styrene	ND	1.0	И	* 0	77	ч	11	u ,		
1,1,1,2-Tetrachloroethane	ND	1.0	11	ıı .	Œ	JP .	lr .	ti		
1,1,2,2-Tetrachloroethane	ND	1.0	U	п	u	H <sub>1</sub>	II.	h	,	
l'etrachloroethene	ND	1.0	H (1)	71	11	Pi .	U	* н		
Toluene	ND	1.0	tt	n	9	rr .	ø	- 11	1 0	
1,2,3-Trichlorobenzene	ND	1.0	н	n		ū	II.	n .		
1,2,4-Trichlorobenzene	ND	1.0	и	11	N		19	и.,		
1,1,1-Trichloroethane	ND	1.0	u	16	ır	*	11	u		
1,1,2-Trichloroethane	ND	1,0	Ŋ	in.	* Fr	Ħ	n	Ħ		
Trichloroethene	ND	1.0	11	H	Ħ	· #				
Trichlorofluoromethane	ND	5.0	44	n	H .	₩.	D	н		
1,2,3-Trichloropropane	ND	5.0	,,,	N	₹	H	n	ħ		
1,2,4-Trimethylbenzene	ND	1.0	17	77	*	*	11	u o		
1,3,5-Trimethylbenzene	ND	1.0	u u	. "		77	-	41		
Vinyl chioride	ND	5.0	,,	N		Ħ	н			
m,p-Xylene	ND	1.0		-	tπ	77	н	,u		
o-Xylene	ND	1.0	U	•	19	•	n	W		
Surrogate: Dibromofluorometho		102 %	86-	118	Ŋ.	n i	11	и ,	-	
Surrogate: Toluene-d8		99.4 %		110		,,,	n	*	1	
Surrogate: 4-Bromofluorobenze	ne	97.4 %		115	W		*	₩ .	-	
TB 4606 (0604123-19) Liquid										
Benzene	ND	1.0	μg/L	ī	B6D1044	04/10/06	04/10/06	EPA 8260B		
Bromobenzene	ND	1.0	HE L	0	10101017	(I	W X0102	1111 (2000	1	
Bromochloromethane	ND	1,0	b	11	II	a	*	и .	1	
Bromodichloromethane	ND	1.0	16	* 0	10	a	#	я -		
Bromoform	ND	1.0	"	41	п	n	<b>₩</b>	ìr		
Bromomethane	ND	5.0	17	11	n	**		It		
n-Butylbenzene	ND	1.0	R	n	и	11	*			
sec-Butylbenzene	ND	1.0			**	y	*	H		
tert-Butylbenzene	ND	1.0	н	0	4	11	*		1	
	ND	1.0		n		11	#			
Clarken total all and do	IND	1.0								
	NID				11	R	11			,
Chlorobenzene	ND		77			••	••			
Chloroethane	ND	5.0	п	"		u u	14			
Chlorobenzene Chloroethane Chloroform	ND ND	5.0 1.0	'n	ш	n	v	11	<b>n</b> ())		
Chlorobenzene Chloroethane Chloroform Chloromethane	ND ND ND	5.0 1.0 5.0	n	n n	n u	п	11			
Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene	ND ND ND ND	5.0 1.0 5.0 1.0	11 11 71	11 11 D	11 11	ų v	11 11	n		
Chlorobenzene Chloroethane Chloroform Chloromethane	ND ND ND	5.0 1.0 5.0	n	n n	n u	п	11			·



Westminster CA, 92683

Worley Parsons Komex ' 5455 Garden Grove Blvd. Suite 200 Project: APC
Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

## Volatile Organic Compounds by EPA Method 8260B Sierra Analytical Labs, Inc.

Analyto	Result	Reporting Limit	Units	Dilution	Barch	Prepared	Analyzed	Method	Note
TB 4606 (0604123-19) Liquid	Sampled: 04/06/06 00:00	Received	04/06/00	5 16:00					-
1,2-Dibromo-3-chloropropane	ND	5.0	μg/Ľ	1	B6D1044	04/10/06	04/10/06	EPA 8260B	×
1,2-Dibromoethane (EDB)	ND	1,0	**	0	11	et	Ħ		
Dibromomethane	ND	1.0	19	ų	11	11	W	#	
1,2-Dichlorobenzene	ND	1.0	77	ň	11	п	1	#	
1,3-Dichlorobenzene	ND	1.0	- 11	10	u	'n	F	77	
1,4-Dichlorobenzene	ND	1.0	TF	17	tr	•		₹	
Dichlorodifluoromethane	ND	5.0	11	ħ	n	11		м	
1,1-Dichloroethane	ND	1.0	В	D		9		7	
1,2-Dichloroethane	ND	1.0	0	U	li	11	H	Ti .	
1,1-Dichloroethene	ND	1.0	lt .	n	u	16	N	я	
cis-1,2-Dichloroethene	ND	1.0	1t	u	u	11	h	n	
trans-1,2-Dichloroethene	ND	1.0	H	н	u	H	И	'n	
1,2-Dichloropropane	ND	1.0	н	*	11	14	H	Ħ	*
1,3-Dichloropropane	ND	1.0	"	n	11	В	30	ŧ	
2,2-Dichloropropane	ND	1.0	₩	11	- X - W	17	h	li	
1,1-Dichloropropene	ND	1,0	#	17		IJ	p p	M	
cis-1,3-Dichloropropene	ND	1.0	Ħ	17	11	7	N	п	
rans-1,3-Dichloropropene	ND	1.0	11	19	D .	7		×	
Ethylbenzene	ND	1.0	a	11	U			M	
Hexachlorobutadiene	ND	1.0	11	IJ		•	r	*	
Isopropylbenzene	ND	1.0	ņ	II	U	11	ĸ	M	
p-Isopropyltoluene	ND	1.0	н	Ir	π	0	*	F	
Methylene chloride	ND	1.0	(r	п	н	1	er .	₹	
Methyl tert-butyl ether	ND	1.0	W.	**	99	π	и	#	
Naphthalene	ND	1.0	U	0	**	PT .	tr	म	
n-Propylbenzene	ND	1.0	**	π	п	tr	ų.	₩	
Styrene	ND	1.0	19		*	n	11	Ħ	
1,1,1,2-Tetrachloroethane	ND	1,0	⊕ _ 1f	*	¥	n	11	P	
1,1,2,2-Tetrachloroethane	ND	1.0	11	n	77	ij	ч	з п	
Tetrachloroethene	ND	1.0	10	n	yı.	11	11	ti ti	
Toluene	ND	1.0	н	н	11	И	II;	g	
1,2,3-Triohlorobenzene	ND	1.0	Ħ	- 0 -	11	п	ir	ti ti	
1,2,4-Trichlorobenzene	ND	1.0		rı	11	п	(*	п	
1,1,1-Trichloroethane	ND	1.0		н	ĮI.	(+	Ų	н	
1,1,2-Trichloroethane	ND	1.0	79	Pt .	п	ľ	II	N	
Trichloroethene	ND	1.0	79	**	п	Ų	ŋ	ır	-
Trichlorofluoromethane	ND	5.0		"	#	Įt.	н	P	
1,2,3-Trichloropropane	ND	5.0	nt.	"	R.	n	71	"	
1,2,4-Trimethylbenzene	ND	1.0	74	D	ĸ	Ħ	*	ti .	
1,3,5-Trimethylbenzene	ND	1.0	11	₹	*	9	19	n	
Vinyl chloride	ND	5.0	n	н	Ħ	 11	11	17	



5455 Garden Grovo Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

### Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte		Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB 4606 (0604123-19) Liquid	Sampled:	04/06/06 00:00	Received	: 04/06/0	6 16:00	· ·····isi				
m,p-Xylene		ND	1.0	μg/L	1	B6D1044	04/10/06	04/10/06	EPA 8260B	West Agents
o-Xylene		ND	1.0	l1	H	п	H	, h	"	
Surrogate: Dibromofluorometho	ine		102 %	86-	118	ī n	4	U		
Surrogate: Toluene-d8			98.6 %	88-	110	tt.	H	π	H	
Surrogate: 4-Bromofluorobenze	ne		97.0 %	86-	115	и	*	re	H	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

### Metals by EPA 6000/7000 Series Methods - Quality Control

Апајусе	Result	Reporting Limit	Units	Spike Level	Source Result	%RBC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D1024 - EPA 3050B										
Blank (B6D1024-BLK1)			-	Prepared	& Analyze	d: 04/10/	06			
Antimony	ND	1.6	шб/кв	·			·			
Arsenic	ND	1.7	v			•				
Barium	ND	3.3	7							
Beryllium	ND	0.75	R							
Cadmium	ND	0.51	11							
Chromium	ND	0.98	11							
Cobalt	ND	2,2	16			0.0				
Copper	ND	2.2	11							
Lead	ND	1.3	. 10							
Molybdenum	ND	1.7	11							
Nickel	ND	0.79	ır							
Selenium	ND	1,9	n							
Silver	ND	0.80	th.			*				
Thallium	ND	1.5	h							
Vanadium	ND	0.73	*							
Zinc	ND	1.3	*							
LCS (B6D1024-BS1)				Prepared	& Analyz	ed: 04/10/	06	0		
Autimony	107	1.6	mg/kg	100		107	75-125			
Arsenic	92.5	1.7	11	100		92.5	78-122			
Barium	90,4	3.3	11	100		90,4	80-120			
Beryllium	94.2	0.75	11	100		94.2	80-120			
Cadmium	90,2	0.51	n	100		90.2	80-120			
Chromium	95,3	0.98	11	100		95,3	80-120			
Cobalt	94.0	2.2	11	100	1	94.0	80-120			
Copper	90,3	2.2	"	100		90.3	78-122			
Lead	92.0	13	"	100		92.0	80-120			
Molybdenum	102	1.7	*	100		102	80-120			
Nickel	90.7	0.79		100		90.7	80-120			
Selenium	86.5	1,9	**	100		86.5	76-124			
Silver	92.9	0.80	71	100		92.9	60-140			
Thallium	91.0	1,5	11	100		91.0	80-120			
Vanadium	91.4	0.73	11	100		91.4	80-120			
Zinc	86.1	1.3	10	100		86.1	78-122			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

### Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Loyel	Source Result	%REC	%REC Limits	RPD	RPD -Limit	Notes
Batch B6D1024 - EPA 3050B	×	4								
LCS Dup (B6D1024-BSD1)			-	Prepared	& Analyze	<b>:d; 04/</b> 10/	06	-		
Antimony	111	1.6	mg/kg	100		111	75-125	3.67	20	
Arsenic	92.7	1,7	"	100		92.7	78-122	0.216	20	
Barium	90.4	3.3	a	100		90.4	80-120	0.00	20	
Beryllium	88.7	0.75	n °	100		88.7	80-120	6.01	20	
Cadmium	90,4	0.51		100		90.4	80-120	0.221	20	3.
Chromium	96.1	0.98	u	100		96.1	80-120	0.836	20	
Cobalt	93.8	2.2	ti .	100	×	93.8	80-120	0.213	20	
Copper	91.7	2,2	H	100	•	91.7	78-122	1.54	20	
Lend	93.1	1.3	. 0	100		93.1	80-120	1.19	20	
Molybdenum	105	1.7	U .	100		105	80-120	2.90	20	*
Nickel -	90.3	0.79	W	100		90.3	80-120	0.442	- 20	
Selenium	88.2	-1.9	u	100		88,2	76-124	1.95	20	•
Silver	92.8	0.80	п	100		. 92.8	60-140	0.108	40	
Thallium	91,2	1,5	IJ	100		91.2	80-120	0,220	20	
Vanadium	91.6	0.73	11	100		91.6	80-120	0.219	20	
Zinc	86,0	1.3	11	100		86.0	78-122	0.116	20	
Matrix Spike (B6D1024-MS1)	So	urce: 060411	7-01	Prepared	& Analyz	ed: <b>0</b> 4/10/	06		4-	
Antimony	44,5	1.6	mg/kg	94.7	0.75	46.2	50-140			QM-
Arsenic	94.6	1.7	ır	94.7	7.9	91.6	70-130			
Barjum	252	3.3	ır	94.7	160	97.1	70-130			
Beryllium	93.9	0.75	ш	94.7	0.54	98.6	70-130			
Cadmium	87.7	0.51	Ħ	94.7	0,23	92.4	70-130			
Chromium	147	0.98	77	94.7	60	91.9	70-130			
Cobalt	101	2.2	π	94.7	16	89.8	70-130	×		*
Copper	126	2.2	Ħ	94.7	42	88.7	70-130			
Lead	96.7	1.3	7	94.7	11	90.5	70-130			
Molybdenum	92.7	1.7	п	94.7	0.53	97.3	70-130			
Nickel	149	0.79	h	94.7	64	89.8	70-130			
Selenium	89.8	1.9	н	94,7	4.5	90.1	70-130			
Silver	85.0	0.80	н	94.7	ND	89.8	60-140			
Thallium	77.4	1.5	fi .	94.7	ND	81.7	70-130			
Vanadium	140	0.73	п	94,7	53	91.9	70-130		-	
Zine	157	1,3	, j. n	94.7	79	82.4	70-130			

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Worley Parsons Komex 5455 Garden Grove Blvd, Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

### Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D1024 - EPA 3050B										
Matrix Spike Dup (B6D1024-MSD1)	So	urce: 060411	7-01	Prepared	& Analyze	ed: 04/10/	06			
Antimony	48.0	1.6	mg/kg	99.7	0.75	47.4	60-140	7.57	20	QM-07
Arsenic	101	1.7	1)	99.7	7.9	93.4	70-130	6.54	20	
Barium	260	3.3	11	99.7	160	100	70-130	3.12	20	
Beryllium	99.0	0.75	19	99.7	0.54	98.8	70-130	5.29	20	
Cadmium	96.0	0,51	řt.	99.7	0.23	96.1	70-130	9.04	20	
Chromium	155	0.98	v	99.7	60	95.3	70-130	5.30	20	
Cobalt	107	2,2	ír.	99.7	16	91.3	70-130	5.77	20	
Copper	136	2,2	tr	99.7	42	94.3	70-130	7.63	30	
Lead	103	1.3	II.	99.7	11	92.3	70-130	6.31	20	
Molybdenum	99.5	1.7	0	99.7	0,53	99.3	70-130	7.08	20	
Nickel	158	0.79	IJ	99.7	64	94.3	70-130	5.86	20	
Selenium	95,2	1.9	ls.	99.7	4.5	91.0	70-130	5.84	20	
Silver	90.4	0.80	n	99.7	ND	90.7	60-140	6.16	40	
Thallium	83,1	1.5		99.7	ND	83.4	70-130	7.10	20	
Vanadium	146	0.73	я	99.7	53	93.3	70-130	4.20	20	
Zinc	177	1.3	*	99,7	79	98.3	70-130	12.0	20	
Batch B6D1025 - EPA 7471A				-						
Blank (B6D1025-BLK1)				Prepared	: 04/10/06	Analyze	1: <b>04/</b> 11/ <b>0</b> 6			
Mercury	ND	0,18	mg/kg							
LCS (B6D1025-B81)				Prepared	: 04/10/06	Analyze	d: 04/11/ <b>0</b> 6			
Mercury	0.19	0.18	mg/kg	0.167		114	70-130			
Matrix Spike (B6D1025-MS1)	So	urce: 060410	9-02	Prepared	: 04/10/06	Analyze	d: 04/11/06			
Mercury	0.33	0.18	mg/kg	0.157	0.05	178	70-130			QM-0

The results in this report apply to the samples analysed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project; APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

## Metals by EPA 6000/7000 Series Methods - Quality Control

### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Unite	Spike Level	Source Result	%RBC	%REC Limius	<b>RP</b> D	RPD Limit	Notes
Batch B6D1025 - EPA 7471A									*	
Matrix Spike Dup (B6D1025-MSD1)	Soi	rce: 060410	9-02	Prepared:	04/10/06	Analyzed	: 04/11/06		*	
Mercury	0.22	0.18	mg/kg	0.152	0.05	112	70-130	40.0	25	QR-0
Batch B6D1112 - EPA 7470A							4.			
Blank (B6D1112-BLK1)				Prepared &	& Analyz	d: 04/11/	06			
Mercury	מא	0.00073	mg/L							
LCS (B6D1112-BS1)				Prepared &	& Analyze	d: 04/11/	06			* *
Mercury	0.00101	0.00073	mg/L	0,00100		101	80-120	· · · ·		
Matrix Spike (B6D1112-MS1)	Sor	ırce: 060404	6-02	Prepared &	k Analyze	sd: 04/11/	06		(E)	
Mercury	0.00112	0.00073	mg/L	0,00100	ND	112	70-130			*
Matrix Spike Dup (B6D1112-MSD1)	Son	urce: 06D4D4	6-92	Prepared &	& Analyza	ed: 04/11/	06			0
Mercury	0.00112	0.00073	mg/L	0.00100	ND	112	70-130	0.00	30	
Batch B6D1125 - EPA 3010A Blank (B6D1125-BLK1)		*		Prenared:	04/11/06	Analyzed	1: 04/12 <b>/</b> 06			<del>~~~</del>
Antimony	ND	0.023	mg/L	3100000						
Arsenic	ND								-	
	NL	0.025	H							
Barium	ND	0.025	11							
Barium Beryllium					,				*	
	ND	0.019	91	•					*	-1-
Beryllium	ND ND	0.019 0.0090	)r	*					*	4
Beryllium Cadmium	ND ND ND	0.019 0.0090 0.0040	ti H	*	•				*	+
Beryllium Cadmium Chromium	ND ND ND ND	0.019 0.0090 0.0040 0.0060	n n n	÷-			ă.		* .	
Beryllium Cadmium Chromium Cobalt	ND ND ND ND	0.019 0.0090 0.0040 0.0060 0.0060	n n n	*-	•				8	
Beryllium Cadmium Chromium Cobalt Copper	ND ND ND ND ND	0.019 0.0090 0.0040 0.0060 0.0060 0.012	H H H	*						
Beryllium Cadmium Chromium Cobalt Copper Lead Molybdenum Nickel	ND ND ND ND ND ND	0.019 0.0090 0.0040 0.0060 0.012 0.019 0.028 0.010	H H H	*-						
Beryllium Cadmium Chromium Cobalt Copper Lead Molybdenum Nickel Selenium	ND ND ND ND ND ND ND ND	0.019 0.0090 0.0040 0.0060 0.012 0.019 0.028 0.010	H H H				*			*
Beryllium Cadmium Chromium Cobalt Copper Lead Molybdenum Nickel Selenium Silver	ND N	0.019 0.0090 0.0040 0.0060 0.012 0.019 0.028 0.010 0.026 0.0030					*			*
Beryllium Cadmium Chromium Cobalt Coppex Lead Molybdenum Nickel Selenium Silver Thallium	ND N	0.019 0.0090 0.0040 0.0060 0.012 0.019 0.028 0.010	11 U U U U U U U U U U U U U U U U U U	*			*			*
Beryllium Cadmium Chromium Cobalt Copper Lead Molybdenum Nickel Selenium Silver	ND N	0.019 0.0090 0.0040 0.0060 0.012 0.019 0.028 0.010 0.026 0.0030		*						*



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200 Westminster CA, 92683 Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

# Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notas
Batch B6D1125 - EPA 3010A		-3-								
			<del></del> -	ъ .	04411.00	. 1	0.110.65	-		
LCS (B6D1125-BS1)					04/11/06		: 04/12/06			···
Antimony	0.201	0.023	mg/L	0.200		100	80-120			
Arsenic	0.173	0.025	H.	0.200		86.5	80-120			
Barium	0.205	0.019	Ħ	0.200		102	80-120			
Beryllium	0.205	0.0090	н .	0.200		102	80-120			
Cadmium	0.190	0.0040	Ħ	0.200		95.0	80-120			
Chromium	0.207	0.0060	**	0.200		104	80-120			
Cobalt	0.213	0.0060	#	0.200		106	80-120			
Copper	0.222	0.012	Ħ	0.200		111	80-120			
Lead	0.212	0.019	•	0.200		106	80-120			-
Molybdenum	0.204	0.028	**	0.200		102	80-120			
Nickel	0.208	0.010	19	0.200	*	104	80-120			
Selenium	0.173	0,026	*	0.200		86.5	80-120			
Silver	0.201	0,0030	у	0.200		100	80-120			
Thallium	0.190	0.011	#	0.200		95.0	80-120			
Vanadium	0.203	0.012	. #	0.200		102	80-120			
Zinc	0.178	0.024	п	0.200		89,0	80-120			
Matrix Spike (B6D1125-MS1)	Ser	urce: 060412	3-17	Prepared:	04/11/06	Analyzeo	1: 04/12/06			
Antimony	0.200	0.023	mg/L	0.200	0.0074	96.3	75-125			
Arsenic	0,165	0.025	pL	0.200	ND	82.5	75-125			
Barium	0,200	0.019	н	0.200	ND	100	75-125			
Beryllium	0.200	0.0090	. <b>N</b>	0.200	ND	100	75-125			
Cadmium	0.185	0,0040	M	0,200	0.00092	92.0	75-125			
Chromium	0.202	0.0060	Ħ	0.200	ND	101	75-125			
Cobalt	0.208	0,0060	h	0.200	0.0040	102	75-125			
Copper .	0.218	0.012		0.200	0.0038	107	75-125			
Lead	0.207	0.019	п	0,200	0.013	97.0	75-125			
Molybdenum	0.200	0.028	Ħ	0.200	ND	100	75-125			
Nickel	0.201	0.010	n	0.200	ND	100	75-125			
Selenium	0.164	0.026	H	0.200	ND	82.0	75-125			
Silver	0.195	0,0030	n	0.200	0.0014	96.8	75-125			
Thallium	0.185	0.011	ti ti	0.200	ND	92.5	75-125			
Vanadium	0.199	0.012	"	0.200	ND	99,5	75-125			
Zine	0.178	0.024	n	0.200	ND	89.0	75-125			

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5455 Garden Grove Blvd, Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

### Metals by EPA 6000/7000 Series Methods - Quality Control

#### Sierra Analytical Labs, Inc.

		Reporting		Spilce	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%RBC	Limits	RPD	Limit	Notes
Batch B6D1125 - EPA 3010A	40			1	*		89			
Matrix Spike Dup (B6D1125-MSD1)	Son	rce: 060412	3-17	Prepared:	04/11/06	Analyzed	l: 04/1 <b>2/</b> 06			
Antimony	0,203	0.023	mg/L	0.200	0.0074	97.8	75-125	1.49	20	·
Arsenic	0.170	0.025	x - 1	0.200	ND	85.0	75-125	2.99	20	= .
Barium	0.204	0.019		0.200	ND	102	75-125	1.98	20	19E
Beryllium	0.205	0.0090	17	0.200	ND	102	75-125	2.47	20	
Cadmium	0.188	0.0040	11	0.200	0.00092	93.5	75-125	1.61	20	
Chromium	0.207	0.0060	.9	0.200	ND	104	75-125	2.44	20	
Cobalt	0.213	0.0060	v	0,200	0.0040	104	75-125	2.38	20	
Copper	0.220	0.012	*	0.200	0.0038	108	75-125	0.913	20	
Lead	0.212	0.019	'n	0.200	0.013	99.5	75-125	2.39	20	*
Molybdenum	0.203	0.028	W.	0.200	ND	102	75-125	1.49	20	-
Nickel	0.208	0.010	10	0,200	ND	104	75-125	3.42	20	
Selenium	0.167	0.026	¥	0.200	ND	83.5	75-125	1.81	20	
Silver	0.200	0.0030	₩.	0,200	0.0014	99,3	75-125	2,53	20	
Thallium	0.187	0.011	u.	0.200	ND	93.5	75-125	1.08	20	
Vanadium	0.203	0.012	"	0.200	ND	102	75-125	1.99	20	
Zinc	0.177	0.024	u	0.200	ND	88.5	75-125	0.563	20	
Batch B6D1231 - EPA 3060A		•							4.	*
Blank (B6D1231-BLK1)				Prepared	: 04/12/06	Analyzer	1; 04/14/06			
Hexavalent Chromium	ND	0,25	mg/kg							
LCS (B6D1231-BS1)				Prepared	: 04/12/06	Analyzeo	1: 04/14/06			
Hexavalent Chromium	2.52	0,25	mg/kg	2.50		101	80-120			
Matrix Spike (B6D1231-MS1)	Sor	штсе: 060410	)9 <b>-02</b>	Prepared	: 04/12/06	Analyzed	1: 04/14/06			
Hexavalent Chromium	2.30	0.25	mg/kg	2.49	0.15	86.3	75-125			



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200 Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki Reported: 04/24/06 15:46

### Metals by EPA 6000/7000 Series Methods - Quality Control

### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D1231 - EPA 3060A		,				×				
Matrix Spike Dup (B6D1231-MSD1)	Son	ırca: Q6041.0	9-02	Prepared:	04/12/06	Апвіугес	1: 04/14/06	-		
Hesavalent Chromium	3.10	0.24	mg/kg	2.37	0.15	124	75-125	29.6	20	QR-07
Batch B6D1815 - 7199	+			. I						
Blank (B6D1815-BLK1)	· ·			Prepared	& Analyz	ed: 04/06/	06			
Hexavelent Chromium	ND	0.0020	mg/L							
LCS (B6D1815-BS1)	•			Prepared o	& Analyz	ed: 04/06/	06			
Hexavelent Chromium	0.00626	0.0020	mg/L	0.00600		104	85-115			
Matrix Spike (B6D1815-MSI)	Son	rce: 060412	3-17	Prepared	& Analyz	ed: 04/06/	06			
Hexavalent Chromium	0.00974	0.0020	mg/L	0.00600	ND	162	80-120	• • • • •		QM-0'
Matrix Spike Dup (B6D1815-MSD1)	Son	urce: 060412	3-17	Prepared	& Analyz	ed: 04/06/	06			
Hexavalent Chromium	0.00771	0.0020	mg/L	0,00600	ND	128	80-120	23.3	20	QM-0"



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

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# Total Volatile Petroleum Hydrocarbons (TVPH) by GC/FID - Quality Control

### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spika Level	Source Result	%REC	%REC Limite	RPD	RPD Limit	Notes
Batch B6D1022 - EPA 5030B P & T		<u> </u>	-			<u> </u>				-
Blank (B6D1022-BLK1)			÷ *	Prepared o	& Analyz	ed: 04/10/	06	4	-	-1-
Gasoline Range Hydrocarbons (C4-C12)	ND	50	μg/L	****				-		
Surrogate: a,a,a-Trifluorotoluene	22.8	- 10 - 10 o	"	20.0		114	70-125	o o o o		
LCS (B6D1022-B81)				Prepared	& Analyz	ed: 04/10/	06			
Gasolino Range Hydrocarbons (C4-C12)	626	50	μ <b>g/</b> L	600		104	80-120			
Matrix Spike (B6D1022-MS1)	Son	arce: 06 <b>0</b> 408	9-02	Prepared	& Analyz	ed: <b>0</b> 4/10/	706			
Gasoline Range Hydrocarbons (C4-C12)	634	50	µg/L	600	ND	106	50-150		_	7
Matrix Spike Dup (B6D1022-MSD1)	Sol	rce: <b>0604</b> 08	9-02	Prepared	& Analyz	ed: <b>0</b> 4/10/	706			Y
Gasoline Range Hydrocarbons (C4-C12)	645	50	μg/L	600	ND	108	50-150	1.72	30	



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Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

# Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID - Quality Control

#### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D1119 - EPA 3510C Sep Fu	rnnel		,				9.			
Blank (B6D1119-BLK1)				Prepared	& Analyz	ed: 04/10/	06			
HC < C8	ND	0.010	mg/L							
C8 <= HC < C9	ND	0.010	b							
C9 <= HC < C10	ND	0.010	n							
C10 <= HC < C11	ND	0.010	н							1
C11 <= HC < C12	ND	0.010	u							
C12 <= HC < C14	ND	0.010	9						-	
C14 <= HC < C16	ND	0.010	U		,					
C16 ← HC < C18	ND	0.010	11				*			
C18 <= HC < C20	ND	0.010	n	*						
C20 <= HC < C24	ND	0.010	11	7						
C24 <= HC < C28	ND	0.010	11							
C28 <= HC < C32	ND	0.010	11							
HC >= C32	ND	0.010	0							
Total Petroleum Hydrocarbona (C7-C36)	ND	0.050	"							
Surrogate: o-Terphenyl	0.136		л	0.100		136	60-175			
LCS (B6D1119-BS1)				Prepared	& Analyz	ed: 04/1 <b>0</b> /	06			
Diesel Range Organics (C10-C24)	0.730	0.050	mg/L	0.800		91.2	80-120			
LCS (B6D1119-BS2)				Prepared	& Analyz	ed: 04/10/	06			
Diesel Range Organics (C10-C24)	0.826	0.050	mg/L	0.800		103	80-120			
LCS Dup (B6D1119-BSD1)				Prepared	& Analyz	ed: 04/1 <b>0</b> /	06			
Diesel Range Organics (C10-C24)	0.734	0.050	mg/L	0.800	(1)	91.8	80-120	0.546	30	
Batch B6D1121 - EPA 3550B Solid I	Ext					_				
Biank (B6D1121-BLK1)				Prepared:	04/11/06	Analyzed	1: 04/12/06	5		
HC < C8	ND	1.0	mg/kg							
C8 <= HC < C9	ND	1.0	17							
C9 <= HC < C10	ND	1.0	D							
C10 <= HC < C11	ND	1.0	Jt.							
C11 <= HC < C12	ND	1,0	н							
C12 <= HC < C14	ND	1.0	н						*	
C14 <= HC < C16	ND	1.0	N							
C16 <= HC < C18	ND	1.0	×							
C18 <= HC < C20	ND	1.0	R							
C20 <= HC < C24	ND	1.0	m							
C24 <= HC < C28	ND	1.0								



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID - Quality Control

### Sierra Analytical Labs, Inc.

Analyte	Rosult	Reporting Limit	Volts	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D1121 - EPA 3550B Solid Ex	ıt.			_			* *			
Blank (B6D1121-BLK1)	)			Prepared:	04/11/06	Analyzed	1: 04/12/06			
C28 <= HC < C32	ND	1,0	mg/kg							
HC >= C32	ND	1.0	*		ž	(1)				
Total Petroleum Hydrocarbons (C7-C36)	ND	5.0	11		(1)					0 0
Surrogate: o-Terphenyl	14.8	=	"	10.0	-	148	60-175			
LCS (B6D1121-BS1)				Prepared:	04/11/06	Analyzed	f: 04/12/06		•	
Diesel Range Organics (C10-C24)	76.2	5.0	mg/kg	80.0		95.2	80-120			
Matrix Spike (B6D1121-MS1)	Son	ırce: 060412	3-03	Prepared:	04/11/06	Analyze	i: 04/12/06			
Diesel Range Organics (C10-C24)	87.9	5.0	mg/kg	80.0	ND	110	50-150			, in .
Matrix Spike Dup (B6D1121-MSD1)	Son	ırce: 060412	3-03	Prepared	04/11/06	Analyze	1: 04/12/06			. 1
Diesel Range Organics (C10-C24)	75,1	5.0	mg/kg	80.0	ND	93.9	50-150	15.7	30	-



Ethylbenzene

Hexachlorobutadiene

Worley Parsons Komex

5455 Garden Grove Blvd. Suite 200 Westminster CA, 92683 Project: APC

Project Number: H0287C Project Manager: Lee Paprocki Reported: 04/24/06 15:46

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D1044 - EPA 5030B P & T								-	,	
Biank (B6D1044-BLK1)				Prepared	& Analyz	ed: 04/10/	06		÷	
Benzene	ND	1.0	μg/L							
Bromobenzene	ND ·	1.0	II							
Bromochloromethane	ND	1.0	ir							
Bromodichloromethane	ND	1.0	IF.							-
Bromoform	ND	1.0	11							
Bromomethane	ND	5.0	ĮŁ.							
n-Butylbenzene	ND	1.0	4							
sec-Butylbenzene	ND	1.0	н							
tert-Butylbenzene	ND .	1.0	H	0.0						
Carbon tetrachloride	ND	1.0	n							
Chlorobenzene	ND	1.0	u	*						
Chloroethane	ND	5.0	*a							
Chloroform	ND	1.0	U							
Chloromethanc	ND	5.0	19							
2-Chlorotoluene	ND	1.0	ţi.							
4-Chlorotoluene	ND	1.0	11	*						
Dibromochloromethane	ND	1.0	11							
1,2-Dibromo-3-chloropropane	ND	5.0	ĮI.							
1,2-Dibromoethane (EDB)	ND	1.0	II							
Dibromomethane	ND	1.0	n							
1,2-Dichlorobenzene	ND	1.0	D							
1,3-Dichlorobenzene	ND	1.0	P						- 0	,
1,4-Dichlorobenzene	ND	1.0	77							
Dichlorodiffuoromethane	ND	5.0	₩.							
1,1-Dichloroethane	ND	1.0	*							
1,2-Dichloroethane	ND	1.0	<b>H</b> . 1							
1,1-Dichloroethene	ND	1.0	11							
cis-1,2-Dichloroethene	ND	1.0	1			*				
trans-1,2-Dichloroethene	ND	1.0	ŧ							
1,2-Dichloropropane	ND	1.0	ч							
1,3-Dichloropropane	ND	1.0	u	-						
2,2-Dichioropropane	ND	1.0	ur.							
1,1-Dichloropropene	ND	1.0	H							
cis-1,3-Dichloropropene	ND	1.0	ır							
trans-1,3-Dichloropropene	ND	1.0	N							
	*1**	410	- 0							

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1.0

1.0

ND

ND



5455 Garden Grove Blvd, Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

# Volatile Organic Compounds by EPA Method 8260B - Quality Control

Anaiyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC	RPD	RPD Limit	Notes
Batch B6D1044 - EPA 5030B P &	T	00						*		× ×
Dlank (B6D1044-BLK1)				Prepared	& Analyze	d: 04/10/	06		*	
lsopropylbenzene	ND	1.0	μg/L							-
p-lsopropyltoluene	ND	1.0	n							
Methylene chloride	ND	1.0	n						-×-	
Methyl tert-butyl ether	ND	1.0	u	(0)						
Naphthalene	ND	1.0	11							*
n-Propylbenzene	ND	1.0	11							
Styrene	ND	1.0	h.							
1,1,1,2-Tetrachloroethane	ND	1.0	"							
1,1,2,2-Tetrachloroefhane	ND	1.0	U			- 0				
l'etrachloroethene	ND	1.0	. "						-	
l'oluene	ND	1.0	77							
,2,3-Trichlorobenzene	ND	1.0		- 2						
,2,4-Trichlorobenzene	ND	1.0	D							
1,1,1-Trichloroethane	ND	1.0	•							
1,1,2-Trichloroethane	ND	1,0	Ħ							
Trichloroethene	ND	1.0	77		*					
Trichlorofluoromethane	ND	5.0	a	**						
1,2,3-Trichloropropane	ND	5,0								
1,2,4-Trimethylbenzene	ND	1,0	W							
1,3,5-Trimethylbenzene	ND	1.0	n							
Vinyl chloride	ND	5,0	H							
m,p-Xylene	ND	1.0	**							
o-Xylenc	ND	1.0	11 '							
Surrogate: Dibromofluoromethane	51.6		H	50.0		103	86-118		<u>:</u>	
Surrogate: Toluene-d8	50.2		#	50.0	×	100	88-110			
Surrogate: 4-Bromofluorobenzene	49.9		u	50.0		99.8	86-115			
LCS (B6D1044-BS1)				Prepared	& Analyz	ed: 04/10/	/06			
Benzene	53,1	1.0	μg/L	50.0		106	80-120			
Chlorobenzene	56.0	1.0	н	50.0		112	80-120			
1,1-Dichloroethene	48.1	1.0	н	50.0		96.2	80-120			
Toluene	53.2	1.0		50.0		106	80-120			
Trichloroethene	52.0	1.0	म	50.0		104	80-120			

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Worley Parsons Komex 5455 Garden Grove Bivd. Suite 200 Westminster CA, 92683 Project: APC

Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

# Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D1044 - EPA 5030B P & T				÷			Ĭ			At .
Matrix Spike (B6D1044-MS1)	So	urce: 060412	3-19	Prepared	& Analyz	ed: 04/10/	06			
Benzene	48,6	1.0	μg/L	50.0	ND	97.2	37-151			
Chlorobenzene	48.4	1.0	11	50.0	ND	96.8	37-160			
1,1-Dichloroethene	43.1	1.0	11	50.0	ND	86.2	50-150			
Toluene	47.8	1,0	lr .	50.0	ND	95.6	47-150			8
Trichloroethene	43.8	1.0	u	50.0	ND	87.6	71-157			,
Matrix Spike Dup (B6D1044-MSD1)	So	urce: 060412	3-19	Prepared	& Апајуљ	ed: 04/10/	06			
Benzene	50.0	1.0	μ <b>g/L</b>	50.0	ND	100	37-151	2.84	30	
Chlorobenzene	49.3	1.0		50.0	ND	98.6	37-160	1.84	30	
1,1-Dichloroethene	44.1	1.0	×	50.0	ND	88.2	50-150	2.29	30	
Toluene	48.7	1.0		50.0	ND	97.4	47-150	1.87	30	
Trichloroethene	45,6	1.0		50.0	ND	91.2	71-157	4.03	30	
Batch B6D1207 - EPA 5035 P & T							4.7			
Blank (B6D1207-BLK1)	*		<del></del> -	Prepared	& Analyz	ed: 04/10/	06		<del></del>	
Benzene	ND	5.0	μ <b>g/k</b> g					<del></del>		
Bromobenzene	ND	5.0	*							
Bromochloromethane	ND	5.0				•				
Bromodichloromethane	ND	5,0	4							
Bromoform	ND	5.0	19							
Bromomethane	ND	5.0	11							
n-Butylbenzene	ND	5,0	ti.							
sec-Butylbenzene	ND	5.0	lr.							
tert-Butylbenzene	ND	5.0	þi							
Carbon tetrachloride	ND	5.0								
Chlorobenzene	ND	5.0	"							
Chloroethane	ND	5.0	"							
Chloroform	ND	5.0	*							
Chloromethane	ND	5.0	*			(1)				
2-Chlorotoluene	ND	5.0	74							
4-Chlorotoluene	ND	5.0	*							
Dibromochloromethane	ND	5.0	, <b>T</b>							
1,2-Dibromo-3-chloropropane	ND	5.0	91							
1,2-Dibromoethane (EDB)	ND	5.0	*							
Dibromomethane	ND	5.0								
1,2-Dichlorobenzene	ND	5.0					<i>x</i>			
1,3-Dichlorobenzene	ND	5,0	#							



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

# Volatile Organic Compounds by EPA Method 8260B - Quality Control

### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D1207 - EPA 5035 P & T						· · · · · · · · · · · · · · · · · · ·				
Blank (B6D1207-BLK1)				Prepared	& Analyze	ed: 04/10/0	 5	<del></del>		
1,4-Dichlorobenzene	ND	5.0	μg/kg				-			<del></del>
Dichlorodifluoromethane	ND	5.0	H							
1,1-Dichloroethane	ND	5.0	"							
1,2-Dichloroethane	ND	5.0	#							
1,1-Dichloroethene	ND	5.0	**							200
cis-1,2-Dichloroethene	ND	5.0	. 11							
trans-1,2-Dichloroethene	ND	5.0								
1,2-Dichloropropane	ND	5.0	11							
1,3-Dichloropropane	ND	5.0				4				Α.
2,2-Dichloropropane	ND	5.0	**							
1,1-Dichloropropene	ND	5.0	11			•				
cis-1,3-Dichloropropene	ND	5.0	11							
trans-1,3-Dichloropropene	ND	5.0	17							
Ethylbenzene	ND	5,0	11							
Hexachlorobutadiene	ND	5.0	11						•	
Isopropylbenzene	ND	5.0	11					•		
p-Isopropyltoluene	ND	5.0	. 11							
Methylene chloride	ND	5.0	11	-						
Methyl tart-butyl ether	ND	5.0	π							
Naphthalene	ND	5.0	n							
n-Propylbenzene	ND	5.0	II		."					
Styrene	ND	5.0	ű						•	
1,1,1,2-Tetrachloroethane	ND	5.0	н							
1,1,2,2-Tetrachloroethane	ND	5.0	n							
Tetrachloroethene	ND	5.0	R							
Toluene	ND	5,0	Ħ					•		
1,2,3-Trichlorobenzene	ND	5.0	**							
1,2,4-Trichlorobenzene	ND	5.0	¥f*							
1,1,1-Trichloroethane	ND	5.0	10							
1,1,2-Trichloroethane	ND	5.0	19							
Trichloroethene	ND	5.0								
Trichlorofluoromethane	ND	5.0	. ,							£ *
1,2,3-Trichloropropane	ND	5.0	11							
1,2,4-Trimethylbenzene	ND	5.0	99							•
1,3,5-Trimethylbenzene	ND	5.0	11							
Vinyl chloride	ND	5.0	.,							
m,p-Xylene	ND	5.0	"							
milh-watene	מא	3,0								

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

E-Mail: Sierralabs @ Sierralabs.net



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

# Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D1207 - EPA 5035 P & T		- ,			-					
Blank (B6D1207-BLK1)	141			Prepared	& Analyz	ed: 04/10/	06		-	
o-Xylene	ND	5.0	µg/kg				0			
Surrogate: Dibromofluoromethane	50.3		ıt	50.0		101	80-120		•	•
Surrogate: Toluene-d8	49.2		y.	50.0		98.4	81-117			
Surrogate: 4-Bromofluorobenzene	48.8		# :	50.0		97.6	74-121			
LCS (B6D1207-BS1)				Prepared:	04/10/06	Analyze	1: 04/11/06			
Benzene	48.3	5.0	Jtg/kg	50.0	-	96.6	80-120			
Chlorobenzene	45.5	5.0	ħ	50.0		91.0	80-120			
1,1-Dichloroethene	41.0	5.0	n	50.0		82.0	80-120		0.0	
Toluenc	46.4	5.0	Ħ	50.0		92.8	80-120	>		
Trichloroethene	46.1	5.0	Ħ	50.0		92.2	80-120			
LCS (B6D1207-BS2)				Prepared:	04/10/06	Analyzea	d: 04/11/06			
Benzene	49.3	5.0	μ <b>g/k</b> g	50.0		98.6	80-120			
Chlorobenzene	49.0	5.0	16	50.0		98.0	80-120			
1,1-Dichloroethene	43.7	5.0	11*	50.0		87.4	80-120	1		
Toluene	47.7	5.0	16	50.0		95.4	80-120			
Trichioroethene	44.8	5.0	и	50.0		89.6	80-120			
LCS Dup (B6D1207-BSD1)				Prepared:	04/10/06	Analyze	d: 04/11/06			
Benzene	51.3	5.0	μg/kg	50.0		103	80-120	6.02	30	
Chlorobenzene	51.4	5.0	п	50.0		103	80-120	12.2	30	
1,1-Dichloroethene	43.9	5.0	н	50,0		87.8	80-120	6.83	. 30	
Toluene	50.8	5.0	H	50.0		102	80-120	9.05	30	
Trichloroethene	51.4	5.0	н	50.0		103	80-120	10.9	30	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



5455 Garden Grove Bivd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/24/06 15:46

#### Notes and Definitions

H-02	Analysis performed outside of the recommende	d holding time per client request.

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- QR-04 The RPD result exceeded the QC control limits; however, either the MS or MSD percent recovery was acceptable. Sample results for the QC batch were accepted based on percent recovery and completeness of QC data.
- S-03 Surrogate diluted out.
- S-07 Surrogate recovery outside of control limits due to coclution with high levels of petroleum hydrocarbons.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

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SIERRAANALYTICAL

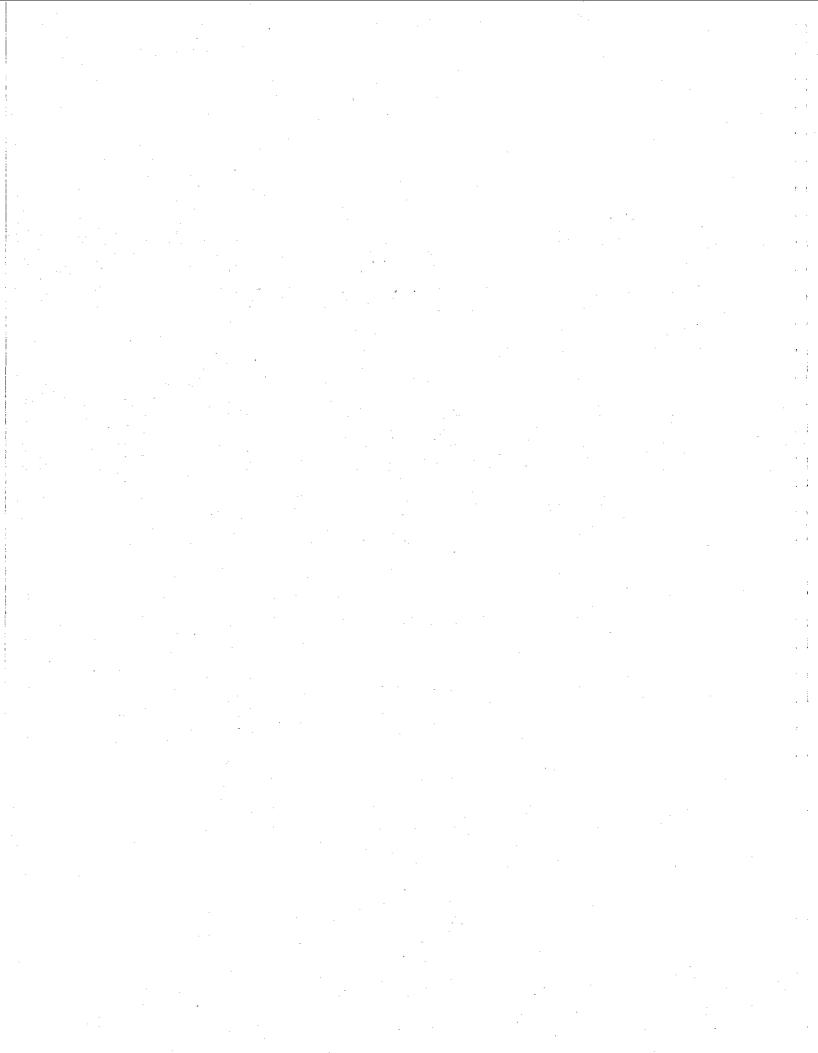
TEL: 949-348-9389 FAX: 949-348-9115

26052 Merit Circle Suite 105 Laguna Hills, CA 92653

Date: 4/6/06 Page 1 of 2

Lab Project No.: 0604/23

Client: Workey Parsons Kame	火			ient Project ID:					79	A	Analysis Req	ueste	ď			
Client Address: 5455 (royally) Westminstor, CA, 9269	GRAN	e Blu	<u> </u>	to2870	= APC				12 +8					+		Geotracker EDD Info:
				inn Around		24 Hour 72 Hour	98/4	8	9							Client LOGCODE
Client Tel. No.: 7(4-379-1(57) Client Fax. No.: 7(4-379-1(60)			"			5 Day	\ \frac{2}{2}	82601	4 1	- }						
Client Proj. Mgr.: Lee Paffdcki				<u> </u>	Normal [	Mobile	-Corbin Gange	\ \rangle \rangle	Mekels	-						Site Global ID
Client Sample ID.	Date	Time	Matrix	Preservative	Container Type	No. of Containers	Hg.L	8	3							Field Point Names/ Comments
MW3-4606-1-5	16/06	9:15	2	NIA	Sleeve	1	X		X							
MW3-4606-1-5	1/6/06	9:15	5	NA	encore	3		X				-00				
MW3-4606-2-151		9780	5	NJA	encare	3	X*	X		_				8		
MW3-4606-2-22	** (1	10105	5	N/A	5/eeve	1		*	X	_						
MW3-4606-3-25	اد در	10:10	5	NJA	encore	3	74	X		_				1		
MW3-4606-3-25 66		(0),(0)	5	N/A	Sleève	t	X		X	$\perp$			<u>.</u>			
MW3-4606-4-35	77 (t	(0:50	5	NA	encare	3		X	- 7	_				_		
Mw3-4606-4-35 68	12 V	10:20	5	N/A	Sleeve	1	X		X	$\downarrow$			$\perp$			
MW4-4608-1-10		13:20	5		encore	3		×		4		_				
MW4,-4606-1-10		13:20	5	NA	Sleeve	1	×		X	_						
Sampler Signaula: Il Nai Man		Shîp	ped Via:	-							Total Number of	f Conta	ainers Si	uhmitte	d to	Sample Disposal:
Printed Name (K) COSOCN		(Car	rign/Waybill N	a)			1			- [:	Laboratory				İ	Return to Client
Retinguished By W Maply 1749	Date G	1	WID	IN U	VV	Albide	autho	rization	to perfor	n the	the signature on this analysis specified a	bove un	der SIERR	A's Term	s and	Lab Disposal*
condition by Pass Kornex	H. C		pany: C.J.	www	<u> </u>	4100	* - Sa				agreed upon in writing hazardous by SIERI					Archivemos.
Retinguished & Williams	4.50		ived II.	do	220	To DE				- 1	Total Number of	of Cor	ntainers	Receiv	red	Other
Company: 5 VERVIA	Times:	<b>C</b> C∞ C∞ C∞ C∞ C∞ C∞ C∞ C C C C C C C C	pany: So	ema		13:00	- 529%		Oraco va sissi		by Euroratory	inutebet in	market and	i de como sou de co	00 00 20000	William Co. For appropriate to the confidence of
Celinquished By:	Date	Reco	ived By:			Dase:	ю	T.	K6) 1249	OR	Vijeksoviji (Proje		le Recè	p. Lau	ditio	
Сомряду:	Time:	Com	pany:			Time:		lata					7		) <u>*</u>	
Special Instructions:	-15-	-+	ry an	od availur	Z+ TPH		J						re-veli	es Veii	ito il	The same
Special Instructions:  On Sumply MW3-766-3  (11/20) Juny #1207 2000	e, i	f no	+ Inc	ocegi) sai	mple to	hen		Prog			3			eatacin.	**	23A/RIDO/B-3
			7	F . 3 5 .		A TOMP TRAINS	A PART OF	SHANDS	TO A	Administr	Company of the second	7.5.11	T. T. C.	A THURSDAY	STATE OF THE PARTY	Market Control of the



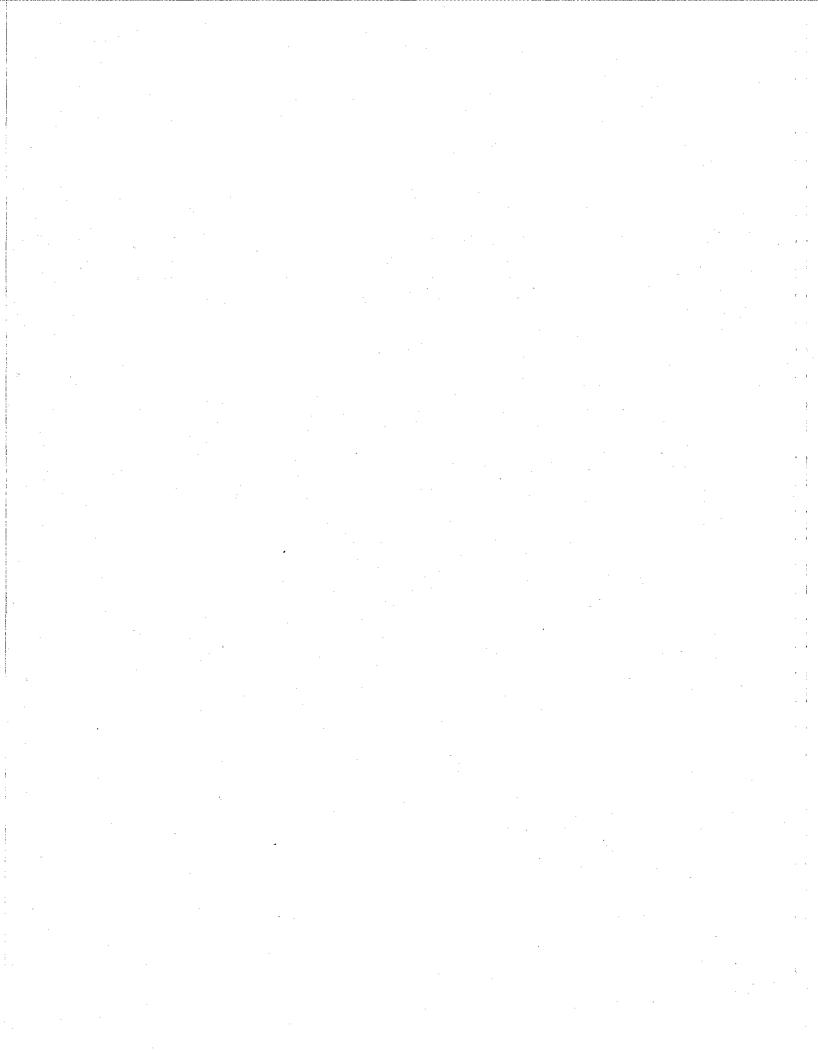
## SIERRA ANALYTICAL

TEL: 949-348-9389

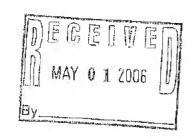
CHAIN OF CUSTODY RECORD

4 6 0 Page 2 of 2

FAX: 949.348.9115 26052 Merit Circle Suite 105 Laguna Hills, CA 92653 Lab Project No.: **Analysis Requested** Client Uniter Pations Kassex Client Project ID: Geotracker EDD Info: 5455 Garden Grove Blind Client Address: 402826 (ustminst 11 42683 ð Immediate 24 Hom Turn Around Client LOGCODE Time Requested 48 Hour 72 Hour 82( 14-374-1157 Client Tel. No.: 4 Day 5 Day 714-379-1140 Client Fax. No.: Normal Mobile Sine Global ID S-anrock Client Proj. Mgr.: Vac Container No. of Field Point Names/ Client Sample ID. Matrix Preservative Date Time Comments Containers Type X 4/6/06 MN4-4606-2-15 NA encore 5 1325 × MW4-4606-2-15 X Storeve MINIU-4606-3-25 3 X NJA Ch Co/e 14-4606-3-25 NIA × Sleeve 3 5 NIA encure MW4-4606-4-35 N/A Sterve HLL 2:50 3:00 W HLL VOA HCL Sample Disposal: Total Number of Containers Submitted to Sampler Signature: Shipped Via Laboratory Return to Client (Carrier/Waybill No. The delivery of samples and the signature on this chain of custody form constitutes ∠ Lab Disposal\* authorization to perform the analysis specified above under SIERRA's Terms and Conditions, unless otherwise agreed upon in writing between SEERRA and CLIENT - Samples determined to be hazardous by SIERRA will be returned to CLIENT. Komey Archive \_\_\_\_ mos. Pro- 04 Total Number of Containers Received Other by Laboratory 12:00 6-8:00 POR LABORATOR VESEGOR Y SAMPLE Receipt Considens. Relunquished By: Date: Special Instructions: So on this if 10 x the limit / TPH analysis for fun RORA metals of 20x the TOZ?







27 April 2006

Lee Paprocki Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200 Westminster, CA 92683

RE:APC

Work Order No.: 0604109

Attached are the results of the analyses for samples received by the laboratory on 04/05/06 16:30.

The samples were received by Sierra Analytical Labs, Inc. with a chain of custody record attached or completed at the submittal of the samples.

The analyses were performed according to the prescribed method as outlined by EPA, Standard Methods, and A.S.T.M.

The remaining portions of the samples will be disposed of within 30 days from the date of this report. If you require any additional retaining time, please advise us.

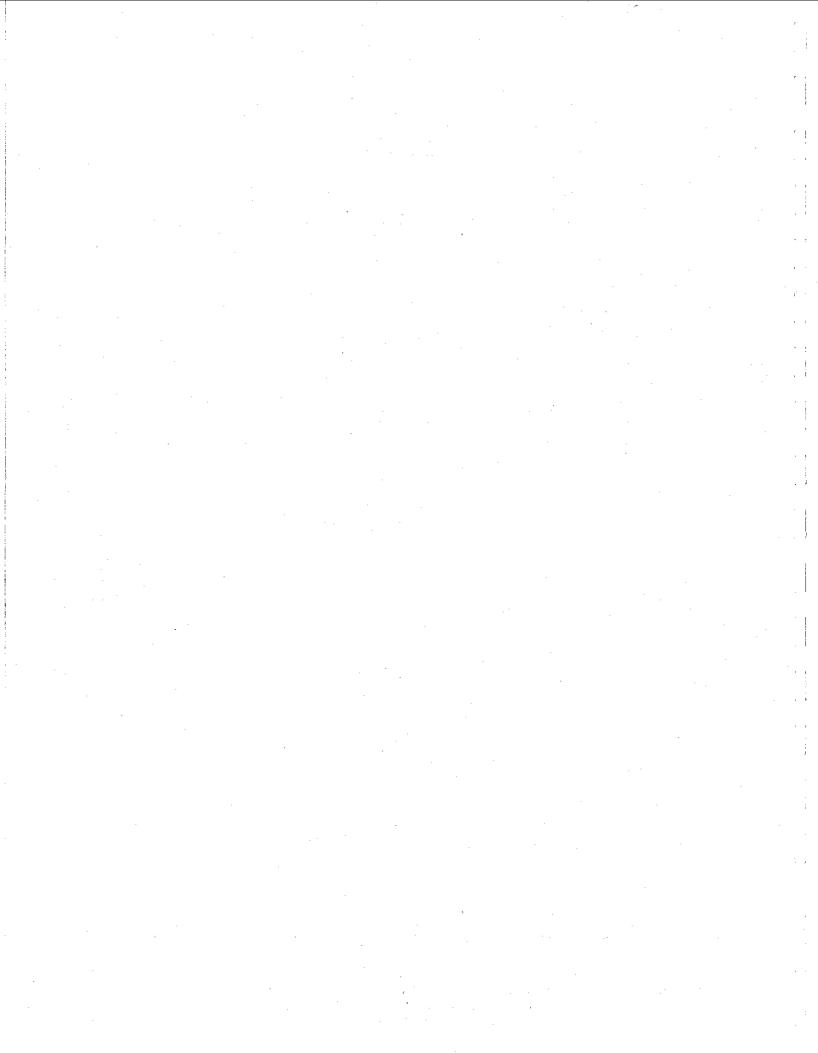
Sincerely,

Richard K. Forsyth

Richard & Fornyth

Laboratory Director

Sierra Analytical Labs, Inc. is certified by the California Department of Health Services (DOHS), Environmental Laboratory Accredidation Program (ELAP) No. 2320.





5455 Garden Grove Blvd, Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Metrix	Date Sampled	Date Received
FB 4506	0604109-01	Liquid	04/05/06 08:00	04/05/06 16:30
MW1-4506-1-5	0604109-02	Soil	04/05/06 09:35	04/05/06 16:30
MW1-4506-2-10	0604109-03	Soil	04/05/06 09:40	04/05/06 16:30
MW1-4506-3-15	0604109-04	Soil	04/05/06 09:45	04/05/06 16:30
MW1-4506-4-25	0604109-05	Soil	04/05/06 09:55	04/05/06 16:30
MW1-4506-5-35	0604109-06	Soil	04/05/06 10:05	04/05/06 16:30
MW1-4506-1-5	0604109-07	Soil	04/05/06 10:05	04/05/06 16:30
MW1-4506-2-10	0604109-08	Soil	04/05/06 09:40	04/05/06 16:30
MW1-4506-3-15	0604109-09	Soil	04/05/06 09:45	04/05/06 16:30
MW1-4506-4-25	0604109-10	Soil	04/05/06 09:55	04/05/06 16:30
MW1-4506-5-35	0604109-11	Soil	04/05/06 10:05	04/05/06 16:30
MW2-4506-1-5	0604109-12	Soil	04/05/06 12:00	04/05/06 16:30
MW2-4506-1-5	0604109-13	Soil	04/05/06 12:00	04/05/06 16:30
MW2-4506-2-10	0604109-14	Soil	04/05/06 12:05	04/05/06 16:30
MW2-4506-2-10	0604109-15	Soil	04/05/06 12:05	04/05/06 16:30
MW2-4506-3-15	0604109-16	Soil	04/05/06 12:10	04/05/06 16:30
MW2-4506-3-15	0604109-17	Soil	04/05/06 12:10	04/05/06 16:30
MW2-4506-4-25	0604109-18	Soil	04/05/06 12:20	04/05/06 16:30
MW2-4506-4-25	0604109-19	Soil	04/05/06 12:20	04/05/06 16:30
MW2-4506-5-35	0604109-20	Soil	04/05/06 12:50	04/05/06 16:30
MW2-4506-5-35	0604109-21	Soil	04/05/06 12:50	04/05/06 16:30
EB 4506	0604109-22	Liquid	04/05/06 08:00	04/05/06 16:30
TB 4506	0604109-23	Liquid	04/05/06 00:00	04/05/06 16:30

#### CASE NARRATIVE

SAMPLE RECEIPT:

Samples were received intact, at 4 °C, and accompanied by chain of custody documentation.

PRESERVATION:

Samples requiring preservation were verified prior to sample preparation and analysis.

HOLDING TIMES:

All holding times were met, unless otherwise noted in the report with data qualifiers.

QA/QC CRITERIA:

All quality objective criteria were met, except as noted in the report with data qualifiers.



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

## Metals by EPA 6000/7000 Series Methods

### Sierra Analytical Labs, Inc.

. A	Dom <sup>14</sup>	Reporting	T Tanàn	Pilindo-	Datah	December	à malauma d	Mathod	Nate
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
FB 4506 (0604109-01) Liquid	Sampled: 04/05/06 08:00	Received	: 04/05/06	6 16:30				<u> </u>	
Silver	ND	0.0030	mg/L	1	B6D1125	04/11/06	04/12/06	EPA 6010B	
Arsenic	ND	0,025	Ħ	U	**	II	17	b	
Barium	ND	0.019	#	II	17	Ħ	11	. 11	
Beryllium	ND	0.0090	11	Ħ	. #	n'	11	16	
Cadmium	ND	0.0040	17	· N	16	"	17		
Cobalt	ND	0.0060	19	*1	¥	Ħ	11	ff .	
Chromium	0.0076	0,0060	19	11	. 10	. 11	11	U	
Copper	0.17	0.012	II	Ħ	11	- <b>17</b> .	u	11	
Mercury	ND	0.00073		11	B6D1112	04/11/06	04/11/06	EPA 7470A	
Molybdenum	ND	0.028	17	11	B6D1125	04/11/06	04/12/06	EPA 6010B	
Nickel	ND ·	0.010	11	11	11 .	11	Ħ	ti .	-
Lead	0.033	0.019	ii .	н	H	· 11	it	Ħ	
Antimony	ND	0.023	#1	ti.	"	. 11	**	Ħ	
Selenium	ND	0.026	. я	u	**	II.	**	și.	
Thallium	ND	0.011	11	Ħ	Ħ .	Ħ	**	91	
Vanadium	ND	0.012	11	71	11	i.	11	11	
Zinc	0.14	0.024	. 17	11	11	11	li .	11	
MW1-4506-1-5 (0604109-02) S	oil Sampled: 04/05/06 09	:35 Rece	ived; 04/0	05/06 16:3	0				
Silver	ND	0.80	mg/kg	1	B6D1024	04/10/06	04/10/06	EPA 6010B	
Arsenic	12	1.7	. 11	. 0	n	11	***	n	
Barium	180	3,3	н	n	y	11	ĸ	H ·	
Beryllium	ND	0.75	Ħ	н	н	11	39	*1	
Cadmium	ND	0.51	91	H	Œ	H	. 11	ч	
Cobalt	14	2,2	W	**	11	Ħ	31	Ħ	•
Chromium	34	0.98	***	Ħ	Ħ	н	11	11	
Hexavalent Chromium	ND	0.24	R ·	11	B6D1231	04/12/06	04/14/06	EPA 7199A	
Copper	32	2.2	· It	11	B6D1024	04/10/06	04/10/06	EPA 6010B	
Mercury	ND	0.18		19	B6D1025	04/10/06	04/11/06	EPA 7471A	
Molybdenum	ND	1.7	U	11	B6D1024	04/10/06	04/10/06	EPA 6010B	
Nickel	26	0.79	19	11	u	11	**	IJ	
Lead	8.1	1.3	11	u	u	ti .	Ħ	U	
Antimony	ND	1.6	n ·	н	u	II .	11	Ħ	
Selenium	3.6	1.9	11	Ħ	u	π	11	tı	
Thallium	ND	1,5	11	**	н .	н	11	n	
Vanadium	58	0.73	It	11	н .	H	11	11	
Zinc	66	1.3	lt .	77		lų.	ti	11:	



5455 Garden Grove Blvd, Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

### Metals by EPA 6000/7000 Series Methods

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW1-4506-2-10 (0604109-03) Soil	Sampled: 04/05/06	09:40 Rec	eived: 04	/05/06 16:	30				
Silver	ND	0.80	mg/kg	1	B6D1024	04/10/06	04/10/06	EPA 6010B	
Arsenic	3.8	1.7	, 10	B	្នុង	н	Ħ	n	
Barium	. 170	3.3	ń	D	· 11	Ч	11		1
Beryllium	ND	0.75	a	н	₩	H	**	n n	
Cadmium	ND	0.51	ti	11	M	4	4	н	10
Cobalt	15	2.2	Ø	a	11	-	*	, н	
Chromium	42	0.98	u	Íπ	9	N	77	H	
Hexavalent Chromium	ND	0.25	9	. H	B6D1231	04/12/06	04/14/06	EPA 7199A	-
Copper	31	2.2	,11	Ħ	B6D1024	04/10/06	04/10/06	EPA 6010B	
Mercury	ND	0.16	11	И	B6D1025	04/10/06	04/11/06	EPA 7471A	
Molybdenum	ND	1.7	11	H	B6D1024	04/10/06	04/10/06	EPA 6010B	
Nickel	27	0.79	11	JI	11	Ħ		Ħ	
Lead	5.7	1.3	11	71	11	<b>T</b>	#	₩	
Antimony	ND	1.6	11		19	₩.	*	W	
Selenium	4.3	1.9	ıŗ	#	a		11	*	
Thallium	ND	1.5	e	*	v	И	1r	91	
Vanadium	53	0.73	· ·	- <del>-</del>	н	Ħ	(r	₹	
Zinc	90	1.3	u.	11	77	н	U	n	
MW1-4506-3-15 (0604109-04) Soil	Sampled: 04/05/06		elved: 04	V05/06 16:	30	*	*		
Silver	ND	0.80	mg/kg	1	B6D1024	04/10/06	04/10/06	EPA 6010B	*
Arsenic	27	1.7	in the second	U	M	4	н _	II 71 0010D	
Barlum	220	3.3		11	19	н	11	N	
Beryllium	ND	0.75	19	п		4	10		
Cadmium	ND	0.51		ч		4		<b>N</b>	
Cobalt	19	2.2	н	ŧ	₩.		11		
Chromium	39	0.98		, ,	м		и		
Hexavalent Chromium	ND	0.23	и	41	B6D1231	04/12/06	04/17/06	EPA 7199A	
Copper	43	2.2		ч	B6D1024	04/12/06	04/10/06	EPA 6010B	
Mercury	ND	0.18		11	B6D1025	04/10/06	04/11/06	EPA 7471A	
Molybdenum	ND	1.7	11	н	B6D1024	04/10/06	04/10/06	EPA 6010B	
Nickel	29	0.79	i.		B0D1024	04/10/06 H	04/10/06	EPA OUTOB	
Lead	8.6	1.3			11	n	11		
		1.6	,		n n	"	н	'n	
Antimony	ND 5.1		"	,	и.	"	75	n.	
Selenium		1.9			, , , , , , , , , , , , , , , , , , ,	ų.	• н	11	
Thallium	ND	1.5		P		"	11	h	
Vanadium	84	0.73			" N	"		"	
Zine	79	1.3	4	ŧ!	4	11	71	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC
Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

### Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW1-4506-4-25 (0604109-05) Soil	Sampled: 04/05/06 (	09:55 Rec	elved: 04	/05/06 16:	30				
Silver	ND	0.80	mg/kg	1	B6D1024	04/10/06	04/10/06	EPA 6010B	
Arsenic	2.9	1.7	TITE WE	"	DODIG24	11	וו	H GOLOGI	
Bartum	76	3.3	#	n	0	17	11	'n	
Beryllium	ND .	0.75	4		u	17	11	FI	
Cadmium	ND	0.51	11	11	ш	V	Ŋ	n	
Cobalt	4.7	2.2	*	ш		11	H	n,	
Chromium	8.8	0.98	п *	ŧ	u-	п		N	
Hexavalent Chromium	ND	0.23	н	n	B6D1231	04/12/06	04/14/06	EPA 7199A	
Copper	6.4	2,2	17	п	B6D1024	04/10/06	04/10/06	EPA 6010B	
Mercury	ND	0.16	11	n	B6D1025	04/10/06	04/11/06	EPA 7471A	
Molybdenum	ND.	1.7	19	**	B6D1024	04/10/06	04/10/06	EPA 6010B	
Nickel	6.8	0.79	0	H	7	m.	*		
Lead	1.7	1.3	- h	-	77	¥f	*		
Antimony	ND	1.6	TO .	₩		tr	*	Ħ	
Selenium	2.0	1.9	*	17	11	"	и	и	
Thallium	ND	1.5	n	11	11	"	91	н	
Vanadium	18	0.73	Ħ	11	11	**	N	н	
Zine	18	1,3	*	1)	* 11	**	11	ч	
MW1-4506-5-35 (0604109-06) Soil	Sampled: 04/05/06	10:05 Rec	eived: 04	/05/06 16:	30				
Silver	ND	0.80	mg/kg	1	B6D1024	04/10/06	04/10/06	EPA 6010B	· · · · · · · · · · · · · · · · · · ·
Arsenic	ND	1.7	n Triffy will	,	- "	0-1720/00 H	11/10/100	11	
Barium	32	3.3	u	#	=			R	
Beryllium	ND	0.75	11	*	,	4	n		
Cadmium	ND	0.51	Ŋ.		77	W	r	*	
Cobalt	3.8	2,2	11	π	n	Ħ	47	er	
Chromium	7.0	0.98	11	77	n		**		
Hexavalent Chromium	ND	0.24	11	n	B6D1231	04/12/06	04/17/06	EPA 7199A	
Copper	4.7	2.2	17	н	B6D1024	04/10/06	04/10/06	EPA 6010B	
Mercury	ND	0.18	41	n	B6D1025	04/10/06	04/11/06	EPA 7471A	
	ND	1.7	**	11	B6D1024	04/10/06	04/10/06	EPA 6010B	
wiotybaeaum				fi.	tt.	π	(1	. 11	
Molybdenum Nickel		0.79	N,						
Molyodenum Nickel Lead	5.0 1.6	0.79	H		R.	TI	16	16	
Nickel Lead	5.0 1.6	1.3			tr If	11 11	11	3 f	
Nickel Lead Antimony	5.0 1.6 ND	1.3 1.6	н	n				26 19 13	
Nickel Lead Antimony Selenium	5.0 1.6 ND ND	1.3 1.6 1.9	н . в	H	l!	n	11	2d 19 13	
Nickel Lead Antimony	5.0 1.6 ND	1.3 1.6	. # . #	n H	17	n	n n	·	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

# Metals by EPA 6000/7000 Series Methods

### Sierra Analytical Lahs, Inc.

Analyte	Result	orting Limit	Units .	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW2-4506-1-5 (0604109-12) Soil	Sampled: 04/05/06 12:00	Recei	ved: 04/0	5/06 16:3	)	-			
Silver	ND	0.80	mg/kg	1	B6D2113	04/21/06	04/24/06	EPA 6010B	-
Arsenic	33	1.7	#	tr	ч	17	11	TI .	
Barlum	200	3.3	Ħ	ţį.	11	79	М	10	
Beryllium	ND	0.75		10	**	Ħ	H	₩	
Cadmium	ND	0.51	*	U	"	1)	H	*	
Cobalt	19	2.2	г	u.	11	77	n	W W	
Chromium	42	0.98	D	9	11	π	H	*	(1)
Hexavalent Chromium	1.1	0.25	U	u '	B6D2416	04/24/06	04/25/06	EPA 7199A	*
Copper	38	2.2	M	M;	B6D2113	04/21/06	04/24/06	EPA 6010B	
Mercury	ND	0.18	91	W	B6D2116	04/21/06	04/24/06	EPA 7471A	
Molybdenum	ND	1.7	п	#	B6D2113	04/21/06	04/24/06	EPA 6010B	
Nickel	23	0.79	9	Ħ	Ħ	H	11	n ×	
Lead	7.7	1,3	9	19	FF	H	Ú.	ŧ	6.
Antimony	ND	1.6	11	11	Ħ	U	n	- 0	
Selenium	2,1	1.9	19	11	π	U	n	n	
Thallium	ND	1.5	11	44	*	n	Ħ	и	0.0
Vanadium	68	0.73	11	M	19	11	*	n n	
Ziuc	83	1.3	Û.	<b>!</b> l	n	11	*	D .	
MW2-4506-2-10 (0604109-14) Soil	Sampled: 04/05/06 12:0	5 Rec	eived: 04/	05/06 16:	30				
Silver	ND	08.0	mg/kg	1	B6D2113	04/21/06	04/24/06	EPA 6010B	
Arsenic	24	1.7	ıı .	D	н	R.	Ħ	o ×	
Barium	180	3.3	II II	ľ	N		n	u	
Beryllium	ND	0.75	D .						
-				bj.	=	F	u u	п	
Cadmium	ND	0.51	II.	li Ii	*	r H	u H	11 H	*
	ND 19	0.51				# #		ก ห ส	* .
Cobalt	19	2.2	II.	ш	•		H	त्त स स	*
Cobalt Chromium	19 40	2.2 0.98	II fi	11	99 97	H H	H N	н н	* *
Cobalt Chromium Hexavalent Chromium	19 40 0.69	2.2 0.98 0.24	ti a	n n	* * * * * * * * * * * * * * * * * * *	04/24/06	1 1 04/25/06	EPA 7199A	* *
Cobalt Chromium Hexayalent Chromium Copper	19 40 0,69 50	2.2 0.98 0.24 2.2	a a	41 (1	B6D2416 B6D2113	04/24/06 04/21/06	04/25/06 04/24/06	BPA 7199A BPA 6010B	
Cobalt Chromium Hexavalent Chromium Copper Mercury	19 40 0.69 50 ND	2.2 0.98 0.24 2.2 0.18	11 11 11 11	() () ()	* * * * * * * * * * * * * * * * * * *	04/24/06 04/21/06 04/21/06	04/25/06 04/24/06 04/24/06	BPA 7199A BPA 6010B BPA 7471A	
Cobalt Chromium Hexavalent Chromium Copper Mercury Molybdenum	19 40 0,69 50	2.2 0.98 0.24 2.2	।' (1 (1 (1 (1 (1 (1 (1)	।। (f श स स	B6D2416 B6D2113 B6D2116	04/24/06 04/21/06	04/25/06 04/24/06	BPA 7199A BPA 6010B	
Cobalt Chromium Hexavalent Chromium Copper Mercury Molybdenum Nickel	19 40 0.69 50 ND ND 29	2.2 0.98 0.24 2.2 0.18 1.7 0.79	ii d u H H	11 (1 11 11 11	B6D2416 B6D2113 B6D2116 B6D2113	04/24/06 04/21/06 04/21/06 04/21/06	04/25/06 04/24/06 04/24/06 04/24/06	BPA 7199A BPA 6010B BPA 7471A	
Cobalt Chromium Hexavalent Chromium Copper Mercury Molybdenum Nickei Lead	19 40 0.69 50 ND ND 29	2.2 0.98 0.24 2.2 0.18 1.7 0.79 1.3	11 11 11 11 14 14 14	11 (1 t) t) t) T)	B6D2416 B6D2113 B6D2116 B6D2113	04/24/06 04/21/06 04/21/06 04/21/06	04/25/06 04/24/06 04/24/06 04/24/06	BPA 7199A BPA 6010B BPA 7471A	
Cobalt Chromium Hexavalent Chromium Copper Mercury Molybdenum Nickel Lead Antimony	19 40 0.69 50 ND ND 29 10	2.2 0.98 0.24 2.2 0.18 1.7 0.79 1.3 1.6	17 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	11 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (	B6D2416 B6D2113 B6D2116 B6D2113	04/24/06 04/21/06 04/21/06 04/21/06	04/25/06 04/24/06 04/24/06 04/24/06	BPA 7199A BPA 6010B BPA 7471A	
Cobalt Chromium Hexavalent Chromium Copper Mercury Molybdenum Nickei Lead Antimony Selenium	19 40 0.69 50 ND ND 29 10 ND	2.2 0.98 0.24 2.2 0.18 1.7 0.79 1.3 1.6 1.9	17 10 41 44 45 46 46 47	11 11 11 11 11 11 11 11 11 11 11 11 11	B6D2416 B6D2113 B6D2116 B6D2113	04/24/06 04/21/06 04/21/06 04/21/06	04/25/06 04/24/06 04/24/06 04/24/06	BPA 7199A BPA 6010B BPA 7471A	
Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury Molybdenum Nickel Lead Antimony Selenium Thallium Vauadium	19 40 0.69 50 ND ND 29 10	2.2 0.98 0.24 2.2 0.18 1.7 0.79 1.3 1.6	# # # # # # # # # # # # # # # # # # #	11 10 11 11 11 11 11 11 11 11 11 11 11 1	B6D2416 B6D2113 B6D2116 B6D2113	04/24/06 04/21/06 04/21/06 04/21/06 ""	04/25/06 04/24/06 04/24/06 04/24/06	BPA 7199A BPA 6010B BPA 7471A	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

### Metals by EPA 6000/7000 Series Methods

Analyte	Result	teporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW2-4506-3-15 (0604109-16) Soil	Sampled: 04/05/06 12:	10 Rec	eived: 04/	05/06 16:.	30				
Silver	ND	0.80	ша/ка	l	B6D1024	04/10/06	04/10/06	BPA 6010B	
Arsenic	15	1.7	ur .	n	*	u	п	II .	
Barium	180	3.3	ч	U	P	1/	11	tt	
Beryllium	ND	0.75	17	II.	#	ļi .	*		
Cadmium	ND	0.51	0	H	Ħ	**	Ħ	н	- X-
Cobalt	17	2.2	11	71	II .		**		
Chromium	34	0.98	16	*			PT .	e	
Hexavalent Chromium	ND	0.24	1/	#	B6D1231	04/12/06	04/17/06	EPA 7199A	
Copper	37	2.2	19	٦,	B6D1024	04/10/06	04/10/06	EPA 6010B	
Mercury	ND	0.18	n	n	B6D1025	04/10/06	04/11/06	EPA 7471A	×.
Molybdenum	ND	1.7		*	B6D1024	04/10/06	04/10/06	EPA 6010B	
Nickel	30	0.79		11	**	11	19	Ħ	
Lead	8.7	. 1.3	N	n	11	7	"	77	
Antimony	ND	1.6	M	IJ	11	u	· 11	η	
Selenium	4.2	1.9	*	Ħ	11	п	IL	7	
Thallium	ND	1.5	78	D	u	п	tr.	'n	
Vanadium	62	0.73	R	p	N	41	D	п	
Zinc	74	1.3	11	n.	₹	11	U	u	
MW2-4506-4-25 (0604109-18) Soft	dI-3. 04/02/07 43								
141 44 W-43A G-4-49 (MON4TAX-T9) 2011	Pambied: n4/n2/no 13	:20 Rec	elved: 04	/05/06 16:	30				
<u> </u>						04/10/06	04/10/06	EPA 6010B	
Silver Arsenic	ND	0.80	mg/kg	/05/06 16: ! "	B6D1024	04/10/06	04/10/06	EPA 6010B	
Silver		0.80 1.7	mg/kg	1	B6D1024		04/10/06		
Silver Arsenic Barium	ND 6.2 64	0.80 1.7 3.3	mg/kg	1	B6D1024	ų.	*	11	
Silver Arsenic Barium Beryllium	ND 6.2 64 ND	0.80 1.7 3.3 0.75	mg/kg	1 "	B6D1024	11	*	11	
Silver Arsenic Barium Beryllium Cadmium	ND 6.2 64 ND ND	0.80 1.7 3.3 0.75 0.51	mg/kg	1 "	B6D1024	# #	*	11	
Silver Arsenic Barium Beryllium Cadmium Cobalt	ND 6.2 64 ND ND ND	0.80 1.7 3.3 0.75 0.51 2.2	mg/kg	1 "	B6D1024	# H	я # #	11	
Silver Arsenic Barium Beryllium Cadmium Cobalt Chromium	ND 6.2 64 ND ND 7.5	0.80 1.7 3.3 0.75 0.51 2.2 0.98	mg/kg	1 " " " " " " " " " " " " " " " " " " "	B6D1024	о о п п й	有 分 有 分 为	11 11 11 11	
Silver Arsenic Barium Beryllium Cadmium Cobalt Chromium Hexavalent Chromium	ND 6.2 64 ND ND 7.5 14 ND	0.80 1.7 3.3 0.75 0.51 2.2 0.98 0.24	mg/kg	1 n n n n	B6D1024	04/12/06	* * * * * * * * * * * * * * * * * * *	" " " " EPA 7199A	·
Silver Arsenic Barium Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper	ND 6.2 64 ND ND 7.5 14 ND	0.80 1.7 3.3 0.75 0.51 2.2 0.98 0.24 2.2	mg/kg	1 n n w	B6D1024 "" " " " " B6D1231 B6D1024	04/12/06 04/10/06	** ** ** ** 04/14/06 04/10/06	" " " " EPA 7199A EPA 6010B	· ·
Silver Arsenic Barium Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury	ND 6.2 64 ND ND 7.5 14 ND 12 ND	0.80 1.7 3.3 0.75 0.51 2.2 0.98 0.24 2.2 0.18	mg/kg	1 n n n n n n n n n n n n n n n n n n n	B6D1024 "" " " " B6D1231 B6D1024 B6D1025	04/12/06 04/10/06 04/10/06	04/14/06 04/10/06 04/11/06	EPA 7199A EPA 6010B EPA 7471A	Ē
Silver Arsenic Barium Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury Molybdenum	ND 6.2 64 ND ND 7.5 14 ND 12 ND	0.80 1.7 3.3 0.75 0.51 2.2 0.98 0.24 2.2 0.18 1.7	mg/kg	1 n n n n n n n n n n n n n n n n n n n	B6D1024 "" " " " " B6D1231 B6D1024	04/12/06 04/10/06	** ** ** ** 04/14/06 04/10/06	" " " " EPA 7199A EPA 6010B	· ·
Silver Arsenic Barium Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury Molybdenum Nickel	ND 6.2 64 ND ND 7.5 14 ND 12 ND ND	0.80 1.7 3.3 0.75 0.51 2.2 0.98 0.24 2.2 0.18 1.7	mg/kg	1 n n n n n n n n n n n n n n n n n n n	B6D1024 "" " B6D1231 B6D1024 B6D1025 B6D1024	04/12/06 04/10/06 04/10/06 04/10/06	04/14/06 04/10/06 04/10/06	EPA 7199A EPA 6010B EPA 6010B	
Silver Arsenic Barium Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury Molybdenum Nickel Lead	ND 6.2 64 ND ND 7.5 14 ND 12 ND ND 10 2.8	0.80 1.7 3.3 0.75 0.51 2.2 0.98 0.24 2.2 0.18 1.7 0.79	mg/kg	1 n n n n n n n n n n n n n n n n n n n	B6D1024 B6D1231 B6D1024 B6D1025 B6D1024	04/12/06 04/10/06 04/10/06 04/10/06	04/14/06 04/10/06 04/11/06 04/10/06	EPA 7199A EPA 6010B EPA 7471A EPA 6010B	ī
Silver Arsenic Barium Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury Molybdenum Nickel Lead Antimony	ND 6.2 64 ND ND 7.5 14 ND 12 ND 10 2.8 ND	0.80 1.7 3.3 0.75 0.51 2.2 0.98 0.24 2.2 0.18 1.7 0.79 1.3 1.6	mg/kg	1 n n n n n n n n n n n n n n n n n n n	B6D1024 B6D1231 B6D1024 B6D1025 B6D1024	04/12/06 04/10/06 04/10/06 04/10/06	04/14/06 04/10/06 04/11/06 04/10/06	EPA 7199A EPA 6010B EPA 6010B	ž
Silver Arsenic Barium Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury Molybdenum Nickel Lend Antimony Selenium	ND 6.2 64 ND ND 7.5 14 ND 12 ND ND 10 2.8 ND 3.4	0.80 1.7 3.3 0.75 0.51 2.2 0.98 0.24 2.2 0.18 1.7 0.79 1.3 1.6 1.9	mg/kg	1 n n n n n n n n n n n n n n n n n n n	B6D1024 B6D1231 B6D1024 B6D1025	04/12/06 04/10/06 04/10/06 04/10/06	04/14/06 04/10/06 04/10/06	EPA 7199A EPA 6010B EPA 6010B	ž
Silver Arsenic Barium Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury Molybdenum Nickel Lead Antimony	ND 6.2 64 ND ND 7.5 14 ND 12 ND 10 2.8 ND	0.80 1.7 3.3 0.75 0.51 2.2 0.98 0.24 2.2 0.18 1.7 0.79 1.3 1.6	mg/kg	1 n m m m m m m m m m m m m m m m m m m	B6D1024 B6D1231 B6D1024 B6D1025 B6D1024	04/12/06 04/10/06 04/10/06 04/10/06	04/14/06 04/10/06 04/10/06	EPA 7199A EPA 6010B EPA 6010B	ž

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5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

### Metals by EPA 6000/7000 Series Methods

### Sierra Analytical Labs, Inc.

Sierra Analytical Labs, Inc.												
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note			
MW2-4506-5-35 (0604109-20) Soil	Sampled: 04/05/06	12:50 Rec	eived: 04/	05/06 16:	30		-					
Silver	ND	0.80	mg/kg	1	B6D1024	04/10/06	04/10/06	EPA 6010B				
Arsenic	ND	1.7	Н	II.			π	#				
Barium	51	3.3	116	μ	n	*	*	•				
Beryllium	ND	0.75		יו	н	#	*	* н				
Cadmium	ND	0.51	19	"	11	9	n	. 4				
Cobalt	4.2	2,2	n	* #	n	11	н	n	.,			
Chromium	9.6	0.98	B ×	. 4	**	10	н	н				
Hexavalent Chromium	ND	0.25	п	11	B6D1231	04/12/06	04/14/06	EPA 7199A				
Copper	5.0	2.2	н	п	B6D1024	04/10/06	04/10/06	EPA 6010B				
Mercury	ND	0.16	ч	p	B6D1025	04/10/06	04/11/06	EPA 7471A				
Molybdenum	ND	1.7	₹.	Ħ	B6D1024	04/10/06	04/10/06	<b>EPA 6010B</b>				
Nickel	7.0	0.79	#	71	h	II	II*	1 .				
Lead	1.6	1.3	Ţ	47	11	li	19	*	*			
Antimony	ND	1.6	u	47	11	1 <b>F</b>	11	NF				
Selenium	2.0	1.9	n	#	91	77	N	ч				
Thallium -	ND	1.5	U	H	91	<b>4</b>		II .				
Vanadium	18	0.73	h	*	in .		н	N				
Zinc	19	1,3	D	**	м	W	16	п				
EB 4506 (0604109-22) Liquid Sar	npled: 04/05/06 08:00	0 Received	: 04/05/0	6 16:30				•	a.			
Silver	ND	0.0030	mg/L	1	B6D1125	04/11/06	04/12/06	EPA 6010B				
Arsenic	ND	0.025		H	**	11	04/12/06	11				
Barium	ND	0.019	37	1f		ti	04/12/06					
Beryllium	ND	0.0090	11 0	II	iτ	II .			-1			
Cadmium	ND	0.0040	11	11	18	n	04/12/06					
Cohalt	ND	0,0060	41	11	16	11	*	N				
Chromium	0.0087	0.0060	N	•	н	н	ĮI.	π				
Copper	ND	0.012		n	91	11	04/12/06	Ø				
Mercury	ND	0.00073	N	п	B6D1112	04/11/06	04/11/06	EPA 7470A	0			
Molybdenum	ND	0.028	H		B6D1125	04/11/06	04/12/06	EPA 6010B				
Nickel	ND	0.010	п	9 #	19	D	Ħ	Ħ				
Lead	ND	0.019	u	π.	17	P	'n	er	* *			
Antimony	ND	0.023	7	*	79	n	l1	*				
Selenium	ND	0.026	0	₩.	*	17	0	*				
Thallium	ND	0.011	п.	n	IJ	ĸ	Ħ	ч				
Vanadium	ND	0.012	n	M (X)	u	•	04/12/06	9				
Zinc	ND	0.024		11		h	04/12/06					

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5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

## Total Volatile Petroleum Hydrocarbons (TVPH) by GC/FID

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzad	Method	Notes
FB 4506 (0604109-01) Liquid	Sampled: 04/05/06 08:00	Received	04/05/0	6 16:30			· · · · · · · · · · · · · · · · · · ·		X
Gasoline Range Hydrocarbons (C4-C12)	ND	50	μ <b>g/</b> L	1	B6D1022	04/10/06	04/10/06	EPA 8015B	
Surrogate: a,a,a-Trifluorotoluen	*	106 %	70-	125	"	"	п	и	
EB 4506 (0604109-22) Liquid	Sampled: 04/05/06 08:00	Received	: 04/05/0	6 16:30					
Gasoline Range Hydrocarbons (C4-C12)	ND	50	μ <b>g</b> /L	_1	B6D1022	04/10/06	04/10/06	EPA 8015B	
Surrogate: a, a, a-Trifluorotoluen	в	108 %	70-	125	н	"	ir	n	
TB 4506 (0604109-23) Liquid	Sampled: 04/05/06 00:00	Received	: 04/05/0	6 16:30					0
Gasoline Range Hydrocarbons (C4-C12)	ND	50	μg/L	1	B6D1022	04/10/06	04/10/06	EPA 8015B	· e
Surrogaie: a,a,a-Trifluorotoluen	e	104%	70-	125	н	ff	"	*	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Surrogate: o-Terphenyl

Project: APC
Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

# Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID

### Sierra Analytical Labs, Inc.

-	Biez	. 4	larytical	Linns, 1	110.				
Analyte	Result	orting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW1-4506-1-5 (0604109-02) Soil	Sampled: 04/05/06 09:35	Rece	ived: 04/0	5/06 16:3	0				
HC < C8	ND	1.0	mg/kg	1	B6D1120	04/10/06	04/10/06	EPA 8015B	
C8 <= HC < C9	ND	1.0	*	11	II		77	Ų	
C9 <= HC < C10	ND	41.0	w	ж. Н	11	*	w	D	
C10 <= HC < C11	ND	1.0	TP	FI	TIP .		*	ţi.	
C11 <= HC < C12.	ND	1.0	n	"	o <b>u</b> ∗	И	M	44	
C12 <= HC < C14	ND	1.0	u	P	U	и	77	. *	
C14 <= HC < C16	2.0	1.0	v	11	II .	и.	1	7	
C16 <= HC < C18	4.2	1.0	q	11	u	Ħ	u u	m	
C18 <= HC < C20	5.4	1.0	11		ħ	* u	le .	π	
C20 <= HC < C24	21	1.0	11	U	Ħ	41	II .	79	- 2
C24 <= HC < C28	68	1.0	11	н	#	11	tr _	<b>n</b>	
C28 <= HC < C32	64	1.0	h		Ħ	4	17	0.1	
HC >= C32	4.8	1.0	i)		77	-11	10	h <sub>.</sub>	-
Total Petroleum Hydrocarbons (C7-C36)	170.	5.0	н	*	H	IF	11	H	
Surrogate: o-Terphenyl	1	11%	60-	175	pr	н	n	w .	
MW1-4506-2-10 (0604109-03) Soil	Sampled: 04/05/06 09:4	0 Rec	eived: 04	/05/06 16:	30				
HC < C8	ND	1,0	mg/kg	1	B6D1120	04/10/06	04/10/06	EPA 8015B	
C8 <= HC < C9	ND	1.0	TI .	Ħ	ч	W	18	ti	
C9 <= HC < C10	ND	1.0	71	. 11	ŋ	Ħ	11	(1	
C10 <= HC < C11	ND	1.0	#	Н	ų.	Π	10	47	
C11 <= HC < C12	ND	1.0	19	п	- 1	11	н	11	
C12 <= HC < C14	ND	1.0	Π	11.	11	7	п	1)	
C14 <= HC < C16	ND	1.0	đ	tr	11	7	*	11	
C16 <= HC < C18	ND	1.0	н	4	11	#	*	11	
C18 <= HC < C20	ND	1.0		ų	ji .		#	11	
C20 <= HC < C24	ND	1.0	7	11	п	ir .	π	π	-
$C24 \leq HC \leq C28$	ND	1.0	*	11	II	Ţ	Ħ	H	
C28 <= HC < C32	ND	1.0	Ħ	_ II	M	9	ш	•	
HC >= C32	ND	1,0		nt	N	n	11	h	
Total Petroleum Hydrocarbons (C7-C36)	ND	5.0	ч	.10	*	11	U	н	

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127%

60-175



Westminster CA, 92683

Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200 Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

# Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID

### Sierra Analytical Labs, Inc.

Analyte		orting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW1-4506-3-15 (0604109-04) Soil	Sampled: 04/05/06 09:45	Rec	eived: 04/	/05/06 16:	30	0			
HC < C8	1.2	1.0	mg/kg	i	B6D1120	04/10/06	04/10/06	EPA 8015B	
C8 <= HC < C9	1.0	1.0		11	n	II.	11	Н	
C9 <= HC < C10	6.4	1.0	W	U	п	P	11	H	
C10 <= HC < C11	8.6	1.0	tř	u	0	91	11	n	
C11 <= HC < C12	.12	1.0	#	п	n	11	11	n.	
C12 <= HC < C14	39	1.0	₩	п	17	4r	11	(t-	
C14 <= HC < C16	57	1.0	**	· •	11	r r	1)	19	
C16 <= HC < C18	61.	1.0	"	я	11	l <del>e</del>		•	
C18 <= HC < C20	44	1.0	11 00	n	ľ	• •	u	#	
C20 <= HC < C24	87	1.0	n X	. 19	a		II	₩	
C24 <= HC < C28	. 99	1.0	- 17	7	ц	W	U	π	
C28 <= HC < C32	110	1.0	17		u u	h	U	*	
HC >= C32	5.9	1.0	11	T	· n		11	. T	
Total Petroleum Hydrocarbons (C7-C36)	530	5.0	11	*	II.	4	N		*
Surrogate: o-Terphenyl	89	.0 %	60-	175	н	77	t/	, n	*
MW1-4506-4-25 (0604109-05) Soft	Sampled: 04/05/06 09:55	Rec	zelved: 04	/05/06 16:	30				
HC < C8	ND	10	mg/kg	10	B6D1120	04/10/06	04/11/06	EPA 8015B	
C8 <= HC < C9	ND	10	n	H	п .	u	10	n	
C9 <= HC < C10	ND	10	11	×	н	11	'n	н	
C10 <= HC < C11	ND	10	n	•	н	11	#	li .	
C11 <= HC < C12	57	10	n	*	н	- 11 <sub>10</sub>	. 11	N	
C12 <= HC < C14	140	10	"	Ħ	ц	"	п		
C14 <= HC < C16	160	10	tr.	₹	77	lı .	IJ	r	
C16 <= HC < C18	180	10	"	77	*	"	и	le .	
C18 <= HC < C20	84	10	ų.	n	Ņ	ø	n	N	
C20 <= HC < C24	190	10	u	Ħ	₹1	v	п	•	
C24 <= HC < C28	260	10	u	#1	9	ìr	is.	ir	
C28 <= HC < C32	240	10	- 11	π	71	II .	•	*	
HC >= C32	16	10	n	н	н	II .	*	*	
Total Petroleum Hydrocarbons (C7-C36)	1300	50	ц	ff	11	ï	**	Ħ	
Surrogate: o-Terphenyl		%	60-	175	"	и	"	Pt .	S-0.



5455 Garden Grove Blvd, Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

# Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID Sierra Analytical Labs, Inc.

Analyte	-	irting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
						1 ropason	Minityzed	Motiod	110(6)
MW1-4506-5-35 (0604109-06) Soil	Sampled: 04/05/06 10:05	Rec	eived: 04	(05/06 TO:	3V				,
HC < C8	ND	50	mg/kg	50	B6D1120	04/10/06	04/11/06	EPA 8015B	
C8 <= HC < C9	ND	50	U	0	H	н	11	11	,
C9 <= HC < C10	ND	50	u	11	n	<b>x</b>	"	u u	
$C10 \leftarrow HC < C11$	ND	50	ıı	ji	U ·	Ħ	11	ii.	.0
C11 <= HC < C12	ND	50	n	**	II .	Ħ	u .	н 💮	
C12 <= HC < C14	300	50	11	II.	ıi	Ħ	II.	. "	
C14 <= HC < C16	480	50	11	P	U	н	11	Pt .	
C16 <= HC < C18	380	50	11	II .	н	n	ч	lr .	
C18 <= HC < C20	440	50	11	u	а	ħ	** #	tr.	5.7
C20 <= HC < C24	540	50	10	u	71	Ħ	*	IT	
C24 <= HC < C28	1200	50	,ñ	n	*	₩.	*	u -	0.7
C28 <= HC < C32	1200	50	. 6	¥	*	•	π	II .	-
HC >= C32	90	50	H	#	- 11	n			
Total Petroleum Hydrocarbons (C7-C36)	4600	250	H.	*	π	71	It		
Surrogate: o-Terphenyl	9	%	60-	175	#	u	F	. w	S-0
MW2-4506-1-5 (0604109-12) Soll	Sampled: 04/05/06 12:00	Rece	ived: 04/	35/06 16:3	0 -				
HC < C8	ND	1.0	mg/kg	1	B6D2405	04/19/06	04/20/06	EPA 8015B	1
C8 <= HC < C9	ND	1.0	н	1r	17	F	11:	11	
C9 <= HC < C10	ND	1.0	•	17	II*		9	π '	, j
C10 <= HC < C11	ND	1.0	м	17	IF.	17	Į.	н	
C11 <= HC < C12	ND	1.0	₩.	11	IJ	t)		11	×
C12 <= HC < C14	ND	1.0	п	11	H	H	н	h ,	
C14 <= HC < C16	ND	1.0	Ų	IJ	И	n	IJ	Đ.	
C16 <= HC < C18	ND	1.0	H	п	M	4	N	÷ 41	1
C18 <= HC < C20	ND	1.0	ŧ	N	N	7		17	
C20 <= HC < C24	ND	1.0	17	. •	r =	-41		ý ·	- 7
C24 <= HC < C28	ND	1.0	11	İt		•	4	10%	
C28 <= HC < C32	ND	1.0	11	· · · · · ·	•	*	r	η-	
HC >= C32	ND	1.0	н	11	P	11	11	11	
Total Petroleum Hydrocarbons (C7-C36)	ND	5.0	u	n	u	11	н	u,	
` '				_					



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Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

# Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID

### Sierra Analytical Labs, Inc.

' ×	Rep	orting							
Analyte	Result	Limit	Units	Dilution	Butch	Prepared	Analyzed	Method	Notes
MW2-4506-2-10 (0604109-14) Soil	Sampled: 04/05/06 12:05	Rec	eived: 04	/05/06 16:	30				
HC < C8	ND	1.0	mg/kg	1	B6D2405	04/19/06	04/20/06	EPA 8015B	
C8 <= HC < C9	ND	1.0	11	η	er	11	9	и	
C9 <= HC < C10	ND	1.0	п	11	11	ĸ	'n	.er	
C10 <= HC < C11	ND	1.0	п	Ü	\$F	п	ч	. 10	
C11 <= HC < C12	ND	1.0	rt	n	* n	11	ú	n	0
C12 <= HC < C14	ND	1.0	R	H	v	· · ·	Ħ	'n	
C14 <= HC < C16	ND	1.0	w	n	IF	4	ч	n	
C16 <= HC < C18	ND	1.0		н	U	th.	u	ų 	
C18 <= HC < C20	ND	1.0	н	n .		17	11	n	+
C20 <= HC < C24	ND	1.0	r	n	.0	11	11	11	
C24 <= HC < C28	ND	1.0	<u> -</u> 4	и	u	11	11	11	
C28 <= HC < C32	ND	1.0	a	U	u	<b>{I</b> I	11	0	
HC >= C32	ND	1.0	11	11	н	11	- 16	11	
Total Petroleum Hydrocarbons (C7-C36)	ND	5.0		b	<b>,</b>	ı,	Н	н	
Surrogate: o-Terphenyl	1.	13%	. 60	-175	H	tr	N	H	

HC < C8	ND	10	mg/kg	10	B6D1120	04/10/06	04/11/06	EPA 8015B	
C8 <= HC < C9.	ND	10	ti .	19	н		•		
C9 <= HC < C10	ND	10	Ħ	TI	п	•	11	*	
C10 <= HC < C11	ND	10	1) ,	n	u			₩	
C11 <= HC < C12	36	10	- 11	н	\u	Ð	P	#	
C12 <= HC < C14	95	10	ji .	п	9	и	r	₹	
C14 <= HC < C16	100	10	0	u	"	n	Ħ	#	
C16 <= HC < C18	96	10	р	11	a 10	u	U	Tf .	
C18 <= HC < C20	53	10		11	4	u	н	=	
C20 <= HC < C24	110	10	-R	W	, n	u	ti	U	
C24 <= HC < C28	160	10	* "	1/	311	9	19	Ð	
C28 <= HC < C32	160	10	π	17	H:	11	•	π	
HC >= C32	15	10	н	n	n	lr .	11	ч	
Total Petroleum Hydrocarbons (C7-C36)	830	50		lt	7	ŧł	11	W.	
Surragate: o. Ternhenyl		0/6	KO., 1	75	n	11	,,	N	2.0



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

# Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID Sierra Analytical Labs, Inc.

Analyte		orting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW2-4506-4-25 (0604109-18) Soil	Sampled: 04/05/06 12:20	Rec	elved: 04/	05/06 16:	30				
HC < C8	ND	20	mg/kg	20	B6D1120	04/10/06	04/11/06	EPA 8015B	
C8 <= HC < C9	ND	20	н	Ħ		ij.	*	41	
C9 <= HC < C10	ND	20	H	Ħ	ч	lt.	•	4	
C10 <= HC < C11	28	20	P	*	44	W	и	<b>*</b> 3	
C11 <= HC < C12	52	20	O		*	11	п	7	
C12 <= HC < C14	210	20	U	Ħ	*	11	u	<b>u</b> )	
C14 <= HC < C16	230	20	11	ų.	19	11	41	u	
C16 <= HC < C18	230	20	₩.		U	F	17	н	
C18 <= HC < C20	200	20	W	W	H	Ħ	11	W	0
C20 <= HC < C24	300	20	7	h	71	Ħ	IJ	w (V)	
C24 <= HC < C28	390	20	u	41	<b>9</b>		p.	n	
C28 <= HC < C32	570	20	**	41	п	* 4	и	н	
HC >= C32	48	20	*	17	tn .	а	Ħ	41	
Total Petroleum Hydrocarbons (C7-C36)		100	. Я	ıı	ır	π	tt	11	· ×
Surrogate: o-Terphenyl		96	60-	175	n	rr	fr	и	S-0.
MW2-4506-5-35 (0604109-20) Soil	Sampled: 04/05/06 12:50	Rec	eived: 04	/05/06 16:	30				-
HC < C8	MD	60			····	04/10/07			
$\Pi \cup \neg \cup 0$	ND	50	mg/kg	50	B6D1120	04/10/06	04/11/06	EPA 8015B	
C8 <= HC < C9	ND	50	mg/kg	50	B6D1120	04/10/0 <del>0</del>	04/11/06	EPA 8015B	*
					#B6D1120			EPA 8015B	v.
C8 <= HC < C9	ND ND	50		11 -	P	11	u	EPA 8015B "	•
C8 <= HC < C9 C9 <= HC < C10	ND ND ND	50 50		11	*	11	() ()	स स	
C8 <= HC < C9 C9 <= HC < C10 C10 <= HC < C11	ND ND	50 50 50	H H	11 ·	P H	11 11 11	() ()	π ti .	
C8 <= HC < C9 C9 <= HC < C10 C10 <= HC < C11 C11 <= HC < C12	ND ND ND	50 50 50 50	11 14 16 17	11 · 11 · 11 · 11 · 11 · 11 · 11 · 11	ਜੋ ਜੋ ਹ	11 fl rl Fr	() () ()	π ti .	
C8 <= HC < C9 C9 <= HC < C10 C10 <= HC < C11 C11 <= HC < C12 C12 <= HC < C14	ND ND ND ND 260	50 50 50 50	N P P	11 · 11 * 17	ਲੇ ਦੇ ਦੇ ਹ	11 f1 f1 fr	u u u	π ti .	•
C8 <= HC < C9 C9 <= HC < C10 C10 <= HC < C11 C11 <= HC < C12 C12 <= HC < C14 C14 <= HC < C16	ND ND ND ND 260 340	50 50 50 50 50	h R U	11 · 11 17 17 14 11	ਲ ਦ ਹ ਹ ਹ ਨ	11 11 11 17 18	41 41 41 15 10	17 13 14 16 17	
C8 <= HC < C9 C9 <= HC < C10 C10 <= HC < C11 C11 <= HC < C12 C12 <= HC < C14 C14 <= HC < C16 C16 <= HC < C18	ND ND ND ND 260 340 270	50 50 50 50 50 50	11 A R 17 TI III III III III III III III III III	11 · 11 · 11 · 11 · 11 · 11 · 11 · 11	त त त त स	11 11 11 17 18	41 41 11 11 11 11	17 13 14 16 17	
C8 <= HC < C9 C9 <= HC < C10 C10 <= HC < C11 C11 <= HC < C12 C12 <= HC < C14 C14 <= HC < C16 C16 <= HC < C18 C18 <= HC < C20	ND ND ND ND 260 340 270	50 50 50 50 50 50 50	11 H	11 · 11 · 11 · 11 · 11 · 11 · 11 · 11	序 (d) (t) (T) (物) (b)	11 11 11 17 18	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	17 13 14 16 17 17 17 17 17 19	
C8 <= HC < C9 C9 <= HC < C10 C10 <= HC < C11 C11 <= HC < C12 C12 <= HC < C14 C14 <= HC < C16 C16 <= HC < C18 C18 <= HC < C20 C20 <= HC < C24	ND ND ND ND 260 340 270 270	50 50 50 50 50 50 50 50	11 H P P P P P P P P P P P P P P P P P P	11 · 11 · 11 · 11 · 11 · 11 · 11 · 11	후 선 선 전 전 항 1)	11 11 11 12 14 14 14 14 15 16 17	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	17 13 14 16 17 17 17 17 17 19	
C8 <= HC < C9 C9 <= HC < C10 C10 <= HC < C11 C11 <= HC < C12 C12 <= HC < C14 C14 <= HC < C16 C16 <= HC < C18 C18 <= HC < C20 C20 <= HC < C24 C24 <= HC < C28	ND ND ND 260 340 270 270 410	50 50 50 50 50 50 50 50 50	11 N P 17 11 11 11 11 11 11 11 11 11 11 11 11	11 · 11 · 11 · 11 · 11 · 11 · 11 · 11	हें हो त त प्र भ भ ध	11 11 11 11 11 11 11 11 11 11 11	0 11 11 11 11 11 11	17 13 14 16 17 17 17 17 17 19	
C8 <= HC < C9 C9 <= HC < C10 C10 <= HC < C11 C11 <= HC < C12 C12 <= HC < C14 C14 <= HC < C16 C16 <= HC < C18 C18 <= HC < C20 C20 <= HC < C24 C24 <= HC < C28 C28 <= HC < C32	ND ND ND 260 340 270 270 410 660	50 50 50 50 50 50 50 50 50 50	71 N N N N N N N N N N N N N N N N N N N	11 - 11 - 12 - 13 - 14 - 15 - 15 - 15 - 15 - 15 - 15 - 15	हें ही हा प प भ भ भ भ	11 11 11 11 12 13 14 14 15 16 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	0 11 11 11 11 11 11 11 11 11 11 11 11 11	77 U U U U U U U U U U U U U U U U U U	



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

### Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
FB 4506 (0604109-01) Liquid	Sampled: 04/05/06 08:00	Received	: 04/05/0	6 16:30		7			
Benzene	ND	1,0	μg/L	1	B6D1044	04/10/06	04/10/06	EPA 8260B	
Bromobenzene	ND	1.0	U.	U	н	41	19	10	
Bromochloromethane	ND	1.0	91	1)	P	Ħ	н	- 0	
Bromodichloromethane	ND	1.0	41	0	П	4	11	10	
Bromeform	ND	1.0	п	u	II	₩.	ti	n -	
Bromomethane	ND	5.0	*	11	н	*	. 11	. 0	
n-Butylbenzene	ND	1.0	11	11	pi .	ч	11	π	
sec-Butylbenzene	ND	1.0	п	11	7	"	. "	fi fi	
tert-Butylhenzene	ND	1.0	N .	n	н	11	II.	4	
Carbon tetrachloride	ND	1.0		u	#	11	11	•	
Chlorobenzene	ND	1.0		u		11	υ,	. *	
Chloroethane	ND	5.0	7	ii,	7	* 11	.,	*	
Chloroform	ND	1.0	#	18	Ħ	11	u ·	77	
Chloromethane	ND	5.0	tn .	•	*	0	u	P	
2-Chlorotoluene	ND	1.0	11	u	÷ 9	u	н	# 0	
4-Chlorotoluene	ND	1.0	11	ч	11	н	**	*	
Dibromochloromethane	ND	1.0		ч	14			tt	
1,2-Dibromo-3-chloropropane	ND	5.0	. 10	**	n	•	n	n	
1,2-Dibromoethane (EDB)	ND	1.0		11-	B		tt	н .	
Dibromomethane	ND	1.0	<b>F</b>	11	0	₩	ır	IJ	
1,2-Dichlorobenzene	ND	1.0		10	. 0	*	H-	tı	
1,3-Dichlorobenzene	ND	1,0		40	M	• .	œ		
1,4-Dichlorobenzene	ND	1.0	*	N		м	и	н	
Dichlorodifiuoromethane	ND	5.0	78	н		я		и	
1,1-Dichloroethane	· ND	1.0	*	Ħ	• •	*	' ti	rr .	
1,2-Dichloroethane	ND	1.0	W-	m,	•	4	"	H =	
1,1-Dichloroethene	ND	1.0	n	*	*		"	II.	
cis-1,2-Dichloroethene	ND	1.0	n	#	*	11	44	U	
trans-1,2-Dichloroethene	ND	1.0	п	7	*	п	11	Ð	
1,2-Dichloropropane	ND	1.0	п	÷	i .	•	11	II .	
1,3-Dichloropropane	ND	1.0	ř.	•	*	11	п		
2,2-Dichloropropane	ND	1.0	Ħ	77	Ħ	н	It	11	
1,1-Dichloropropene	ND	1.0	16	ħ	#	п	Ur	U	
cis-1,3-Dichloropropene	ND	1.0	11	11	п	N	II	п	
trans-1,3-Dichloropropene	ND	1.0	D	н		Ħ	**	. н	
Ethylbenzene	ND	1.0	II.	ıl	n			ıı .	
Hexachlorobutadiene	ND	1.0	u	N	n	W	*	n	
Isopropylbenzene	ND	1.0	11	4	ŋ	*		n	
p-Isopropyltoluene	ND	1.0	п		Эř	77		ч	
Methylene chloride	ND	. 1.0	n		16	*	H	u	
Methyl tert-butyl ether	ND	1.0	н	ж	-10	*	į.	11	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

# Volatile Organic Compounds by EPA Method 8260B

# Sierra Analytical Labs, Inc.

FB 4506 (0604109-01) Liquid   Sampled: 04/05/06 08:00   Received: 04/05/06 16:30	
n-Propylbenzene         ND         1.0         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "	
n-Propylbenzene         ND         1.0         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "	
1,1,1,2-Tetrachloroethane       ND       1.0       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       " <td< td=""><td></td></td<>	
1,1,2,2-Tetrachloroethane       ND       1.0       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       " <td< td=""><td></td></td<>	
Tetrachloroethene         ND         1.0         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "	
Toluene         ND         1.0         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "         "	
1,2,3-Trichlorobenzene       ND       1.0       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "<	
1,2,4-Trichlorobenzene       ND       1,0       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "       "<	
1,1,1-Trichloroethane ND 1.0 " " " " " " " 1,1,2-Trichloroethane ND 1.0 " " " " " " " " " " " " " " " " " " "	
1,1,2-Trichloroethane ND 1.0 " " " " " "	
This Linear than a NTD 10 U U U U U U U U U	en en en en en en en en en en en en en e
ricinoroculene ND 1.0 " " " " " " "	
Trichlorofluoromethane ND 5.0 " " " " " "	
1,2,3-Trichloropropane ND 5.0 " " " " " "	•
1,2,4-Trimethylbenzene ND 1.0 " " " " " "	•
1,3,5-Trimethylbenzene ND 1.0 " " " " " "	
Vinyl chloride ND 5.0 " " " " "	** *
m,p-Xylene ND 1.0 " " " " "	
o-Xylene ND 1.0 " " " "	
Surrogate: Dibromofluoromethane 101 % 86-118 " " " "	
Surrogate: Toluene-d8 99.0 % 88-110 " " " "	
Surrogate: 4-Bromofluorobenzene 96.4% 86-115 " " "	
MW1-4506-1-5 (0604109-07) Soil Sampled: 04/05/06 10:05 Received: 04/05/06 16:30	. te tili
Benzene ND 4.5 μg/kg 1 B6D1019 04/07/06 04/07/06 EPA 82601	3
Bromobenzene ND 4.5 " " " "	
Bromochloromethane ND 4.5 " " " " "	
Bromodichloromethane ND 4.5 " " " " "	•
Bromoform ND 4.5 " " " " "	
Bromomethane ND 4.5 " " " " "	
n-Butylhenzene ND 4.5 " " " " " "	
sec-Butylbenzene ND 4.5 " " " " " "	
tert-Burylbenzene ND 4.5 " " " " " "	e je sa a
Carbon tetrachloride ND 4.5 " " " " " "	
Chlorobenzene ND 4.5 " " " " "	
Chloroethane ND 4.5 " " " " "	
Chloroform ND 4.5 " " " " "	
Chioromethane ND 4.5 " " " " "	•
2-Chlorotoluene ND 4.5 " " " " " "	
4-Chlorotoluene ND 4.5 " " " " "	
Dibromochioromethane ND 4.5 " " " " "	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

# Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte	Result	orting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
						гтеригеа	Anatyzed	Meniod	Note
MW1-4506-1-5 (0604109-07) Soil	Sampled: 04/05/06 10:05	Rece	ived: 04/0	15/06 16:30	0		:		
1,2-Dibromo-3-chloropropane	ND	4.5	µg/kg	1	B6D1019	04/07/06	04/07/06	EPA 8260B	150150000
1,2-Dibromoethane (EDB)	ND	4.5	Ħ	17	16	•	ìr	н	
Dibromomethane	ND	4.5	11	II.	*	*	th.	II	
1,2-Dichlorobenzene	ND	4.5	Ħ	U	*	r,	ŲF	th.	
1,3-Dichlerobenzene	ND	4.5	P	U	4	19	4)	v	
1,4-Dichlorobenzene	ND	4.5	#	n	**	lj.	**	II.	
Dichlorodifluoromethane	ND	4.5		II .	**	d	0	U	
1,1-Dichloroethane	ND	4.5	н	ч	"	a	Ħ	41	
1,2-Dichloroethane	ND	4.5	7	Ħ	н	11	77	н	
1,1-Dichloroethene	ND	4.5	n	₩	n	Ħ	# 8	n,	
cis-1,2-Dichloroethene	ND	4.5	ш	-	11	*	•	•	
trans-1,2-Dichloroethene	ND	4.5		₩	н	*	•	4	
1,2-Dichloropropane	ND	4.5	0 0	*	п .	*	H	*	
1,3-Dichloropropane	ND	4.5	11	19	11		H	#	
2,2-Dichloropropane	ND	4.5	U	п	u	11		76	
1,1-Dichloropropene	ND	4.5	ı,	- 1)	le le		**	11	
cis-1,3-Dichloropropene	ND	4.5	a	91	11	rr	Ħ	н	
trans-1,3-Dichloropropene	ND	4.5	=	ur .	11	H	ч	. 4	
Ethylbenzene	ND	4.5	*	17	11	11	11	ų.	
Hexachlorobutadiene	ND	4.5	#	11	37	) i	.0	ų.	
Isopropylbenzene	ND	4.5	*	11	**	U	11	11	
p-Isopropyltoluene	ND	4.5	10	11	"	ų	IF-	11	
Methylene chloride	ND	4.5	н	11 😗	и	11	E .	11	
Methyl tert-butyl other	ND	4.5		н	D		D	11	
Naphthalene	. ND	4.5	_ 11		U	u	ly -	11	
n-Propylbenzene	ND	4.5	71	π		u	IF.	Ĥ.	
Styrene	ND	4.5	7	×	11	Ħ	н	19	*
1,1,1,2-Tetrachloroethane	ND	4.5	*	"	fi	π		· II	
1,1,2,2-Tetrachloroethane	ND	4.5		31	11	*		п	
Tetrachloroethene	ND	4.5	т п	H	ų	D.		N	
Toluene	ND	4.5	ш		п	*		7	
1,2,3-Trichlorobenzene	ND	4.5	ц	d	W	w		7	
1,2,4-Trichlorobenzene	ND	4.5		ĮI.	P)	n	*	*	
1,1,1-Trichloroethane	ND	4.5	N	u		n	NT .	, #	
1,1,2-Trichloroctiane	ND	4.5		ч	*	11	#	n	
Trichloroethene	ND	4.5		u	÷	п	n	P	
Trichlorofluoromethane	ND	4.5	n	"	71	u	11	,	
1,2,3-Trichloropropane	ND	4.5	n	11	п	ш	11	ŧŧ	
1,2,4-Trimethylbenzene	ND	4.5	n	11	Ħ	\u	11	ęt .	
1,3,5-Trimethylbenzene	ND	4.5	н	11	11	"	12	н	-
Vinyl chloride	ND	4.5	#	11	н		n	u	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

# Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte		orting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method		Notes
MW1-4506-1-5 (0604109-07) Soil	Sampled: 04/05/06 10:05	Rece	ived: 04/0	5/06 16:30	0		· · · · · · · · · · · · · · · · · · ·			
m,p-Xylene	ND	4.5	μg/kg	1	B6D1019	04/07/06	04/07/06	EPA 8260B	-	
o-Xylene	ND	4.5	. #	#	н	11	14	n		
Surrogate: Dibromofluoromethane	9.1	.9%	80-	120	'n	- 11	н	r)		-
Surrogate: Toluene-d8		1.1%		117	н	"	#	P		
Surrogate: 4-Bromofluorobenzene		.2 %	74-	121	11	*	*	*		
MW1-4506-2-10 (0604109-08) Soil	Sampled: 04/05/06 09:46	Rec	eived: 04	/05/06 16:	30		-	r.		
Benzene	ND	4.5	μ <b>g/kg</b>	1	B6D1019	04/07/06	04/07/06	EPA 8260B		
Bromobenzene	ND	4.5			π	н	н	11		
Bromochloromethane	ND	4,5	9	IJ	· n	*	**	11		
Bromodichloromethane	ND	4.5	u = X =	n	D	Ħ	Ħ	<b>"</b>		
Bromoform	ND	4.5	11	μ	п	Ħ	n -8			
Bromomethane	ND	4.5	9	II.	II	*1	•	It	-	
n-Butylbenzene	ND	4.5	п	- 11	- н	n		*		
sec-Butylbenzene	ND	4.5	rr .	10	44	n	9	*		
terr-Butylbenzene	ND	4.5	117	1.41	19	n	*1	#		*
Carbon tetrachloride	ND	4.5	п	d'it	n.	u	۹.			
Chlorobenzene	ND	4.5	1	ıt	ú	H	31	*	-	
Chloroethane	ND	4.5	7	μ	ш	И	ч	# *		
Chloroform	ND	4.5	N	U	U	n	41	*	0.0	
Chloromethane	ND	4.5	π	ν	U	н	U	Ħ	•	
2-Chiorotoluene	ND	4.5	*	Ų	11	#	lı .	-35 N		
4-Chlorotoluene	ND	4,5	n	**	*	и	N	N		
Dibromochloromethane	ND	4.5		7	#	17	U	41		
1,2-Dibromo-3-chloropropane	ND	4.5	н	*	÷ # *	19	IF.	0.		
1,2-Dibromoethane (EDB)	ND	4.5	ti	*	· *	19	11	NI.		
Dibromomethane	ND	4.5	н	. #	*	r	U.	н		
1,2-Dichlorobenzene	ND	4.5	If .	Ħ		NT.	b	ı		
1,3-Dichlorobenzene	ND	4.5	el .		M		7	и		
1,4-Dichlorobenzene	ND	4.5	U	#	*	P	11	' п		
Dichlorodifluoromethane	ND	4.5	N	11	₩ *	16	n	u		
1,1-Dichloroethane	ND	4.5	п	17	*1	Ħ	मं	u		
1,2-Dichloroethane	ND	4.5	п	4	fr.	W	**	н		
1,1-Dichloroethene	ND	4.5	н	17	4r	W	79	н		
cis-1,2-Dichloroethene	ND	4.5	n	M	¥	11	**	77	*	*
trans-1,2-Dichloroethene	ND	4.5	a	N	м	n	19	H		
1,2-Dichloropropane	ND	4,5	u	π	N	ų	11	18		
1,3-Dichloropropane	ND	4.5			н	9	u 🤫	<b>7</b>	21	
2,2-Dichloropropane	ND	4.5	n	п	11	ŧI	ır	. 11		
1,1-Dichloropropene	ND	4.5	n	U	ч	ñ	ır			
cis-1,3-Dichloropropene	ND	4.5	19	Ħ	l)	н	Ħ	11		



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC
Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

## Volatile Organic Compounds by EPA Method 8260B

		rting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW1-4506-2-10 (0604109-08) Soft	Sampled: 04/05/06 09:40	Rec	eived: 04	/05/06 16:	30	-			
trans-1,3-Dichloropropene	ND	4.5	μg/kg	1	B6D1019	04/07/06	04/07/06	EPA 8260B	
Ethylbenzene	ND	4.5	π	ji .	11	M.	ŢĪ	9	
Hexachlorobutadiene	ND	4.5	πi	11	11	i <del>r</del>	#	7	
lsopropylbenzene	ND	4.5	11	10	11	н	1 1	- 4	
p-Isopropyltoluene	ND	4.5	*	U	- 11	Ħ	Ħ	п	
Methylene chloride	ND	4.5		ir	11	n	11	W	
Methyl tert-butyl ether	ND	4.5	11	e e	IP.	14	v	II	
Naphthalene	ND	4.5		' н	IP	ıt	11	u	
n-Propylbenzene	ND	4.5		n	II.	15	11	tl	•
Styrene	ND	4.5	•	п	0	и	v	п	
1,1,1,2-Tetrachloroethane	ND	4.5	*	n	II.	11	ji .	ч	
1,1,2,2-Tetrachloroethene	ND	4.5	Ħ	ti ti	II.	ii	17	41	
Tetrachloroethene	ND ·	4.5	78	=0	9 0	н	11	Nr.	
Toluene	ND	4.5	*	ıı .	0	10	11	tr	
1,2,3-Trichlorobenzene	ND	4.5	v	U	· #	H	н	W	
1,2,4-Trichlorobenzene	ND	4.5	17	11	n,	u	U	Nr.	
1,1,1-Trichioroethane	ND	4.5	11	11	0	м	u	w	
1,1,2-Trichloroethane	ND	4.5	D	44	ų.	71	π	H	
Trichloroethene	ND	4.5	It	ч	n	4	a		
Trichlorofluoromethane	ND	4.5	п	11	9	· •	н	n	
1,2,3-Trichloropropane	ND	4.5	.9.	11	<u>.</u> 0	Ħ	н	W - =	
1,2,4-Trimethylbenzene	ND	4.5	п	44	n		7	19 ÷	
1,3,5-Trimethylbenzene	ND	4,5	a	"	41	*	11	n	
Vinyl chloride	ND	4.5	11	8.0	11	*	11	W 4.	
m,p-Xylene	ND	4.5	ħ	17	17	#	11	ń	
o-Xylene	ND	4.5	п	11	H		11	11	
Surrogate: Dibromofluoromethane	93	.9%	80-	120	Ħ	"	W.	"	
Surrogate: Toluene-d8	90	.6%	81-	117	P	#	H	#	
Surrogate: 4-Bromofluorobenzene	84	.1%	74	121	r.	u =	*	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



5455 Garden Grove Bivd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

# Volatile Organic Compounds by EPA Method 8260B

Analyte		orting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
						richaten	Analyzed	Method	Note
MW1-4506-3-15 (0604109-09) Soil	Sampled: 04/05/06 09:45	Rec	eived: 04	/05/06 16:	30		(1)	-	
Benzene	ND	4.5	μg/kg	1	B6D1019	04/07/06	04/07/06	EPA 8260B	
Bromobenzene	ND	4.5	q	ų.	n	**	IJ	n .	
Bromochloromethane	ND .	4.5		ļi.	(I	<b>T</b> . (2)	II.	น	
Bromodichloromethane	· ND	4.5	n	ĮI.	i ii	#	11	11	
Bromoform	ND	4,5	7	н	H	#	17	π .	
Bromomethane	ND	4.5	Ħ	H	31	'n	*	H <sup>*</sup>	
n-Butylbenzene	ND	4.5	*	- 11	fi:	d	•	11	
sec-Butylbenzene	ND	4.5	7	lt	761	H,		"	
tert-Butylbenzene	ND	4.5	*	11	11	II	₩.	u	
Carbon tetrachloride	ND	4.5	14	11	II.	N	Ħ	og n	
Chlorobenzene	ND	4.5	1)	II.	V	η	7	e	
Chloroethane	ND	4.5	11 .	ir ÷	÷ 10	ħ	"	H	
Chloroform	ND	4.5	ч	ш	IF	П	u	- di	(X)
Chloromethane	ND	4.5	u	III	ır	Ħ	н	п	
2-Chlorotoluene	ND	4.5	. H	Ħ	*	11	D	U	
4-Chlorotoluene	ND	4.5	ч		•	9	IJ		
Dibramachloromethane	ND	4.5	н	*		11	н		
1,2-Dibromo-3-chloropropane	ND	4.5	11	Ħ	*	47	n	u '	
1,2-Dibromoethane (EDB)	ND	4.5	10	Ħ	99	₹	n	n .	
Dibromomethane	ND	4.5	7	н	44	H	n	. U	
1,2-Dichlorobenzene	ND	4.5	u	e	e.		11	<b>7</b> . ·	
1,3-Dichlorobenzene	ND	4.5	ш	n	W	M	14	÷ , •	
1,4-Dichlorobenzene	ND	4.5	0	п	11	4	II.	₽ ₩	
Dichlorodifluoromethane	ND	4.5	n	п	н	T	U	₩ (2)	
1,1-Dichloroethane	ND	4.5	D	u	.111	11	It	u	
1,2-Dichloroethane	ND	4.5	r	н	, 4	n	"	ц -0	÷
1,1-Dichloroethene	ND	4.5	и	11	11	10 :	*	D	
cis-1,2-Dichloroethene	ND	4.5		IJ	12	n	*	и	
trans-1,2-Dichloroethene	ND	4.5		11	11	n	*	11	
1,2-Diehloropropane	ND	4.5	Ħ	1) *	11	**	H	н	
1,3-Dichloropropane	ND	4.5	Į.	tt		Į‡	*	11	
2,2-Dichloropropane	ND	4.5	IP.	m,		11	r,	n	
1,1-Dichloropropene	ND	4,5	Ē	Ħ		19	Ħ	11	
cis-1,3-Dichloropropene	ND	4.5	11		Ħ	11	н	11	
trans-1,3-Dichloropropene	ND	4.5		π	*	U	II	II.	
Ethylbenzene	ND	4,5	H	*	*	u	11	11	
Hexachlorobutadiene	ND	4,5	* W	*	*	Đ	TF.	"	
Isopropylbenzene	ND	4,5		•	н	ır	*	"	
p-Isopropyltoluene	ND	4.5	•	11	π	*	1)	п	
Methylene chloride	ND	4.5	-11	. "	n de		19	п	
Methyl tert-butyl ether	ND	4.5	-11	u	#1	7	11	II .	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number; H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

# Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Amillato	Result	eporting	77-5	Dilleria	Darek	Desarros A	A market and	****	
Analyte		Limit	Unite	Dilution	Batch	Prepared	Analyzed	Method	Note
MW1-4506-3-15 (0604109-09) Soll	Sampled: 04/05/06 09:	45 Rec	elved: 04	05/06 16:3	30				
Naphthalene	ND	4,5	μg/kg	1	B6D1019	04/07/06	04/07/06	EPA 8260B	
n-Propylbenzene	ND	4.5	Ħ	19	II .	7	rı	l1	
Styrene	ND	4.5	п	11	IP .	*	n	II	
1,1,1,2-Tetrachloroethane	ND .	4.5	h	11	p ·		н	n	
1,1,2,2-Tetrachloroethane	ND .	4.5	п	15	ff.	H	и -	H	
Tetrachloroethene	ND	4.5	9	H	ee	Ħ		ж.	
Toluene	ND	4.5	#	.00	U.	11	e	pl .	
1,2,3-Trichlorobenzene	ND	4.5	77	n	U	н .	11	. "	
1,2,4-Trichlorobenzene	ND	4,5	*	. н	n	U	Ir	н *	×
1,1,1-Trichioroethane	ND	4.5		P	N	п	II-	н	
1,1,2-Trichloroethane	ND	4.5	*	ır		u u	ø	P .	
Trichloroethene	ND	4.5	n	e	я	41	ø	(t	
Trichlorofluoromethane	· ND	4.5	н	D	=	41	ŧ	Ir	
1,2,3-Trichloropropane	ND .	4,5	н	U	ır	¥	9	th.	
1,2,4-Trimethylbenzene	ND	4.5	11	ŋ	a)	В	Ħ	tr	
1,3,5-Trimethylhenzene	ND	4.5	TF.	n	n	T.	14	11	
Vinyl chloride	ND	4.5	. Pr	**	U	n	w *	Ħ	
m,p-Xylene	ND	4.5	))	7	u .	U	*		
o-Xylene	ND	4.5	PI .		n	d		79	
Surrogate: Dibromofluoromethane		92.5 %	80-	120	pt .	"	,,	н	
Surrogate: Toluene-d8		89.9%		117	n	**			
Surrogate: 4-Bromofluorobenzene	14	85.3 %		121	*	rr	p.	,,	
MW1-4506-4-25 (0604109-10) Soil	Sampled: 04/05/06 09				30				
Benzene	ND	4.4	μg/kg	1	B6D1019	04/07/06	04/07/06	EPA 8260B	
Bromobenzene	ND	4.4	#Bwg	ı,	BODICIS	04/0//06 h	11	BFA 6200B	
Bromochloromethane	ND	4.4		47	71	11	11	н	
Bromodichloromethane	ND	4.4	**	4	n	н	 D		
Bromoform	ND	4.4		7	11	n n	19	- 1	
Bromomethane	ND	4.4	77		 It			4	
n-Butylbenzene	ND	4.4							
sec-Butylbenzene	6.5	4.4	h	11	#	NI			
	ND	4.4			"	,			
tert-Butylbenzene Carbon tetrachloride	ND	4.4		"	7	Pr			
			"	"	1	"			
Chlorophysia	ND	4.4	× 0	-	"	 P		NI NI	
Chloroethane	ND	4.4		-	77	,,		w	
Chloroform	ND	4,4	11			"		Ψ.	
Chloromethane	ND	4.4		-	<b>,</b>			-	
2-Chlorotoluene	ND	4.4	11	Ħ	*	(t	<b>#</b>	п	
2 20 2									
4-Chlorotoluene Dibromochicromethane	ND ND	4.4 4.4	11	71	•	"	শ	11	



5455 Garden Grove Blvd, Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

# Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte		ning . Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW1-4506-4-25 (0604109-10) Sail									110101
1,2-Dibromo-3-chloropropane	ND	4.4		-in-	B6D1019	04/07/02	04/07/07	Table Baron	
1,2-Dibromoethane (EDB)	ND	4.4	μg/kg "	1	ReD1015	04/07/06	04/07/06	EPA 8260B	
1,2-Dibromoemane (EDB) Dibromomethane	ND ND	4.4		. T	"	N.	,,	11	
1,2-Dichlorobenzene	ND	4.4		*	.,	н			
1,3-Dichlorobenzene	ND	4.4		. 77	W		* p		
1,4-Dichlorobenzene		4.4	. TI	⊹" π	ग स	"			-1
Dichlorodifiuoromethane	ND			11	.°* ₩.	e p	· ·	N	
1,1-Dichloroethane	ND ND	4.4	i	 n	77. 17	"	-		
				"	" = n	e.		,	
1,2-Dichloroethane	ND	4.4			"	" .	. "		
1,1-Dichloroethene	ND	4.4		"	"	" n	-		
cis-1,2-Dichloroethene	ND	4.4	. "	" "	" "	11	-		
trans-1,2-Dichloroethene	ND	4.4		"	"	" T	,		
1,2-Dichloropropane	ND	4.4	**	.* 0	W. O.	-	n	" · · · · · · · · · · · · · · · · · · ·	***
1,3-Dichloropropane	ND	4.4	'n	-	" - 3	*			
2,2-Dichloropropane	ND	4.4	" "	0	11	,	77	* *	*
1,1-Dichloropropene	ND	4.4		N.	11	n	-		
cis-1,3-Dichloropropene	ND	4.4		"	PF	9			
trans-1,3-Dichloropropene	ND	4.4	"	"			-	<b>"</b> .	
Ethylbenzene	ND	4.4	11	"	PT Pt	71 N	Ti (i	IP	
Hexachlorobutadiene	ND	4.4	11		"	-	-		
Isopropylbenzene	ND	4.4			"			" ,	
p-Isopropyltoluene	ND	4.4	P	((		И	31	n <sub>.</sub>	
Methylene chloride	ND	4.4	Př	u	n	н	¶ 	*	
Methyl tert-butyl ether	ND	4.4	"	Ħ	ц	9	11	π	
Naphthalene	87	4.4	U	н	"		11-		
n-Propylbenzene	ND	4.4	II.	Ħ	"	4	19		
Styrene	ND	4.4	ļi	7	π	А.	19	h E	
1,1,1,2-Tetrachloroethane	ND	4.4	н	π	77	ır	IJ	ч ,	
1,1,2,2-Tetrachloroethane	ND	4.4	*		n	1)	II	Ч ≘ .	
Tetrachloroethene	ND	4.4	**	- D	n	И	N	41	
Toluene	ND	4.4	11	11	n	ч	*	ч .	
1,2,3-Trichlorobenzene	ND	4.4	п		ii.	h		¶ -	
1,2,4-Trichlorobenzene	ND	4.4	u	0	14		н	10	-
1,1,1-Trichlorocthane	ND	4.4	'n	7	e e	ir .	n	II.	
1,1,2-Trichloroethane	ND	4.4	*	и	91	*	4	II .	-
Trichloroethene	ND	4.4	*	41	M	. 44	11	N	
Trichlorofluoromethane	ND	4.4	71	. и	Ħ	ti.	1	N	,
1,2,3-Trichloropropane	ND	4.4	₩	4	Ħ	ti	77	•	
1,2,4-Trimethylbenzene	ND	4.4	Ħ	W.	11	41	*	•	
1,3,5-Trimethylbenzene	ND	4.4	н	II.	U	•	*		
Vinyl chloride	ND	4.4	71	4	H	11	Ħ	•	



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki Reported: 04/27/06 09:56

# Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte		orting Limit	Units	Dilution	Batch	Desmon 2	A molecus J	Method	Mada
						Prepared	Analyzed	Method	Note
MW1-4506-4-25 (0604109-10) Soil	Sampled: 04/05/06 09:55	Rec	eived: 04/	05/06 16:	30			¥	
m,p-Xyiene	ND	4.4	μg/kg	1	B6D1019	04/07/06	04/07/06	EPA 8260B	
o-Xylene	ND	4.4	n	II	lt .	11	1	11	
Surrogate: Dibromofluoromethane		.4 %	80-	120	#	"	W	Ŋ	
Surrogate: Toluene-d8	90	.2%	81-	117	м	"	1+10	n	
Surrogate: 4-Bromoftuorobenzene	. 88	.6%	74-	121	н	*	H	n	
MW1-4506-5-35 (0604109-11) Soil	Sampled: 04/05/06 10:05	Rec	eived: 04	05/06 16:	30				
Benzene	ND	4.4	ћ <b>б</b> ∕ <b>к</b> в	1	B6D1019	04/07/06	04/07/06	EPA 8260B	10
Bromobenzene	ND	4.4			Ħ	ıl	18	v	
Bromochloromethane	ND	4.4	**	ĸ	¥	rr	11	w	
Bromodichloromethane	ND	4.4	**		**	"	II.	∜ tr	
Bromoform	ND	4.4	**		17	11	1)	11	
Bromomethane	ND	4.4	'W		19	ır	IF.	17	
n-Butylbenzene	ND	4.4	W	le	n	u	η	17	
sec-Butylbenzene	13	4.4	**	π	m	π	п	* 7	
tert-Butylbenzene	ND	4.4	11	<del></del>	ti	TÍ	lu .	n	
Carbon tetrachloride	ND	4.4	11	**	if	n	er er	n	
Chlorobenzene	ND	4.4	11	n	н	Ħ	U	н	
Chloroethane	ND	4.4	U	π	<b>l</b> tr	11	11	Ħ	
Chloroform	ND	4.4	11	h	U U	u	Ħ	н	
Chloromethane	ND	4.4	, 11	in the	u	a	**	n	
2-Chlorotoluene	. ND	4.4	N	11	II.	ŧ	*	н	
4-Chlorotoluene	ND	4.4	н	b'-		ij	11	11	
Dibromochloromethane	ND	4.4	н	n	*	u	11	и	
1,2-Dibromo-3-chloropropane	, ND	4.4		Đ.		4	11	11	
1,2-Dibromoethane (EDB)	ND	4.4	. *	- 11	H	ti	9	11	
Dibromomethane	ND ND	4.4	Ħ	Př		11	**		
1,2-Dichlorobenzene	ND	4.4	-	rr		u	11	ш	
1,3-Dichlorobenzene	ND	4.4	Ħ	p		"	11	u	
1,4-Dichlorobenzene	ND	4.4	77	Ħ		"	11	п	
Dichlorodifluoromethane	ND	4.4	11	#	#	I/	i.t	**	*
1,1-Dichloroethane	ND	4.4	11	*	•	D.	0	. "	
1,2-Dichloroethane	ND	4.4	30		п	. "	e	ır	
1,1-Dichloroethene	ND	4.4	н	97	n	D.	D	rt	
cis-1,2-Dichloroethene	ND	4.4	н	10	11	U	Ų	"	
trans-1,2-Dichloroethene	ND	4.4	rı	10	11	"		"	
1,2-Dichloropropane	ND	4.4	, ii	н	п		II.	"	
1,3-Dichloropropane	ND	4.4	H	π	Ħ	n	D	ır	
2,2-Dichloropropane	ND	4.4	- н	*	0	n	IJ	*	
1,1-Dichioropropene	ND	4.4	-	TP	n	h	n	#	
cis-1,3-Dichloropropene	ND	4.4		17	N	1)	н	-	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

## Volatile Organic Compounds by EPA Method 8260B

#### Sierra Analytical Labs, Inc.

		Reporting		24		6.3		Laure I	da
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW1-4506-5-35 (0604109-11) Soil	Sampled: 04/05/06 1	0:05 Rec	eived: 04	05/06 16:	30	-			
trans-1,3-Dichloropropene	ND	4.4	µg/kg	1	B6D1019	04/07/06	04/07/06	EPA 8260B	
Ethylbenzene	ND	4.4	U.	Ħ	T)	1)	9	#E	
Hexachlorobutadiene	ND	4.4	n *		47	41	U	. R-	
Isopropylbenzene	14	4.4	U	н	O.	и	9	<b>tr</b>	4
p-Isopropyltoluene	11	4.4	II .	rt	17	и	u	Ħ	~ .
Methylene chloride	ND	4.4	0	u	#	н	. "	Ħ	
Methyl tert-butyl ether	ND	4.4	ш		n	ч	н		=
Naphthalene	14	4.4	u	π	31	II	II	ŧr	
n-Propylbenzene	7.6	4.4	0	11	41	и ,	II	n	*
Styrene	ND	4.4			н	It	ij	* H	77.
1,1,1,2-Tetrachloroethane	ND	4.4	W	99	U	Į	II.	n	-
1,1,2,2-Tetrachloroethane	ND	4.4	M	19	IJ	IJ	tr.	9	
Tetrachloroethene	ND	4.4	31	77	II	II.	8 1	n	
Toluene	ND	4,4	9	ħ	н	Đ	P	11	•
1,2,3-Trichlorobenzene	ND	4.4	11	11	n	n	Ħ	н	
1,2,4-Trichlorobenzene	ND	4.4	11	0	ų	39	**	IJ	
1,1,1-Trichloroethane	ND	4.4	11	U.	ц	U	r	п	
1,1,2-Trichloroethane	. ND	4.4	0	tt.	и -	n	U	ft.	
Trichloroethene	ND	4.4	If	"	"		Ħ	u u	•
Trichlorofluoromethane	ND	4.4	Ħ	"	**	Ħ	**	Ir .	
1,2,3-Trichloropropane	ND	4.4	1. H	311	11	•	ŢI	P	
1,2,4-Trimethylbenzene	ND	4.4	D)	н	11	•	*	II.	
1,3,5-Trimethylbenzene	ND	4.4	*	*	u	17	ч	H .	
Vinyl chloride	ND	4.4	*		U	17	1	H -	
m,p-Xylene	ND	4.4	71	19	h ÷	11	11	υ	
o-Xylene	ND	4.4		'n	ır	19	11	. "	
Surrogate: Dibromofluoromethane		87.0 %	80-	120	"	*	н	л	
Surrogate: Toluene-d8		87.2 %	81-	117	ı	W	n	<b>N</b> 10	
Surrogate: 4-Bromofluorobenzene		91.1%	74-	121	N	H	,,	. 14	

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Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

#### Volatile Organic Compounds by EPA Method 8260B

## Sierra Analytical Labs, Inc.

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
	Sampled: 04/05/06 12:00						1-111/4-6		
MW2-4506-1-5 (0604109-13) Soil				35/90 10:30				1-	
Benzene	ND	4.0	μg/kg	1	B6D1019	04/07/06	04/07/06	EPA 8260B	
Bromobenzene	ND	4.0	H	•	"	0	(1	1)	
Bromochloromethane	ND	4.0	11 -		*	n	π	*1	
Bromodichloromethane	ND	4.0	0	п	7	÷ 10	Ħ	W	
Bromoform	ND	4.0	. 0	u	11	a	₹	•	
Bromomethane	ND	4.0		Ħ	19	e e	*	*	
n-Butylbenzene	ND	4.0	FF	TI	41	ħ.	41	<b>T</b> (0)	
sec-Butylbenzene	ND	4.0	rt	*	11	46	71		
tert-Butylbenzene	ND	4.0	h	•	"	. *	N	M	
Carbon tetrachloride	ND .	4.0	D	1	н	17	71	я	
Chlorobenzene	ND	4.0	u	N	41	#	П	H	
Chloroethane	ND	4.0	ų.	N	11	n	4	n	
Chloroform	ND	4.0		n	11	П	tr.	ti .	
Chloromethane	ND	4.0	п	U	11	n	17	41	
2-Chiorotoluene	ND .	4.0	n		"	Pf - *	H	н	
4-Chlorotoluene	ND	4.0	M	N		"	*	N	
Dibromochloromethane	ND	4.0	#		*	**	n		
1,2-Dibromo-3-chloropropane	ND	4.0	n	r	*	#		•	
1,2-Dibromoethane (EDB)	ND	4.0	i in		₩	ĮI.	Ħ	w	
Dibromomethane	. ND	4.0	n	Ħ	tř.	n	u	B	
1,2-Dichiorobenzene	ND	4.0	u	0	11	u	π	P	
1,3-Dichlorobenzene	ND	4.0	11	, n	10	Ħ	н	U	
1,4-Dichlorobenzene	ND	4.0	U	41	н	u	*	41	
Dichlorodifluoromethano	ND	4.0	11	*		77	₩	<b>11</b> 00	
1,1-Dichloroethane	ND	4.0	11	Ħ		*	#	14	
1,2-Dichloroethane	ND	4.0	IJ	π	*	tr.	₩	M	
1,1-Dichloroethene	ND	4.0	II.	17	91	11	n	W	
cis-1,2-Dichloroethene	4.7	4.0	10	н	71	p p	11	*	
trans-1,2-Dichloroethene	ND	4.0		n	Ħ	n	"		
1,2-Dichloropropane	ND	4.0	<b>#</b>	* U	ų	u	u	le .	
1,3-Dichloropropane	ND	4.0	17	**	N	h	н	и	
2,2-Dichloropropane	ND	4.0	n n	u	ĸ	u	at .	if	
1,1-Dichloropropene	ND	4.0	п	17	r	u	1)	Ĥ	
cis-1,3-Dichloropropene	ND	4.0	n.	II.	n	ц	11	н	
trans-1,3-Dichloropropene	ND	4.0	u ·	II	10	D 11	II.	H	
Ethylbenzene	ND	4.0	u u	п	а	11	"	н	
Hexachlorobutadiene	ND	4.0	u ·	ti	u	11	U	U.	
Isopropylbenzene	ND	4.0	"	11	11	-11	u u	Įr.	
p-Isopropyltoluene	ND	4.0	11	W	*	11	U	II.	
Methylene chloride	ND	4.0	11		. *	. 11	n	u.	
Methyl tert-butyl ether	ND	4.0	10			H.	11	D	

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5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

## Volatile Organic Compounds by EPA Method 8260B Sierra Analytical Labs, Inc.

		orting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW2-4506-1-5 (0604109-13) Soil	Sampled: 04/05/06 12:00	Rece	ived: 04/0	5/06 16:3	0	T			
Naphthalene	ND	4.0	μg/kg	1	B6D1019	04/07/06	04/07/06	EPA 8260B	
n-Propylbenzene	ND	4.0	11	"	N.	)I	<b>71</b>	II.	
Styrene	ND	4.0	. 11	H	P	ıı	**	- H	
1,1,1,2-Tetrachloroethane	ND	4.0		. 10	Pt .	D	10	н	
1,1,2,2-Tetrachloroethane	ND	4.0	11	0	Ħ	Ħ	"	n	
Tetrachloroethene	46	4.0	II		11	,	u-	(1	
Toluene	ND	4.0	Ħ	ij	ĮI.	4	11	и Э	
1,2,3-Trichlorobenzene	ND	4.0	0.	tr	u u	Ħ	71	U	
1,2,4-Trichlorobenzene	ND	4.0	11	⊕. U	ti i	W	n	1771 p	
1,1,1-Trichloroethane	ND	4.0	U.	*	#	11	99	*	
1,1,2-Trichloroethane	ND	4.0	U	¥	Ħ	41	10	⊕ ₩	
Trichloroethene	7.6	4.0	D	₩	=	ń	tr	* 1	×
Trichlorofluoromethane	ND	4.0	ır	٠. ا	-	- н	u	4 8	* .
1,2,3-Trichloropropane	ND	4.0	11	n	п	lp.	'n	ņ	
1,2,4-Trimethylbenzene	ND	4.0	1	H		1/	н	u	*
1,3,5-Trimethylbenzene	ND	4.0	π	ŋ	0	11	. н	Ħ	
Vinyl chloride	ND	4.0	*	n	U	11	**	"	*.
m,p-Xylene	ND	4.0	п	n	n	.0	11	Ħ	
o-Xylene	ND	4.0	u	π	11		11	H	4
Surrogate: Dibromofluoromethane	8:	9.3 %	80	20	"	11	"	77	
Surrogate: Toluene-d8	89	9.3 %	81-	117			"	rr	
Surrogate: 4-Bromofluorobenzene		5.6%	74-		**	ft.	*	*	

#### MW2-4506-2-10 (0604109-15) Soll Sampled: 04/05/06 12:05 Received: 04/05/06 16:30

Benzene		ND	4.1	μg/kg	1	B6D1019	04/07/06	04/07/06	EPA 8260B
Bromobenzene		ND	4.1		11	11	**	0	in in
Bromochloromethane		ND	4.1	17	n	М.	Ħ	U	Н
Bromodichloromethane		ND	4.1	11	н	п	•	ìr	
Bromoform	1	ND	4.1	9 4	н	n	Ħ	p	н .
Bromomethane		ND	4,1	11	10	II	*	lt.	i li
n-Butylbenzene	-1	ND	4.1	4		e	IJ	N	e
sec-Butylbenzene		ND	4.1	h	b		ij	₩.	u ·
tert-Butylbenzene		ND	4.1	п	(3)		u	n	и .
Carbon tetrachloride		ND	4.1	н			11	u	H
Chlorobenzene		ND	4.1	a i	*	*	II	n .	11
Chloroethane		ND.	4.1	n	w	*	11	n	Ħ
Chloroform		ND	4.1	Ħ	#	Ħ	11	r	11
Chloromethane		ND	4.1	*	н	н	11	w	<del>ti</del>
2-Chlorotoluene		ND	4.1	H	n	u	н	7	e e
4-Chlorotoluene		ND	4.1		ħ	н	11	70	TF .
Dibromochloromethane		ND	4.1	4	19	TÎ	- 11	•	π

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

2



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200 Westminster CA, 92683 Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

## Volatile Organic Compounds by EPA Method 8260B

#### Sierra Analytical Labs, Inc.

Analyte	Result	orting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW2-4506-2-10 (0604109-15) Soil	Sampled: 04/05/06 12:05	Rec	eived: 04	/05/06 16:3	30				
1,2-Dibromo-3-chloropropane	ND	4.1	μg/kg	1	B6D1019	04/07/06	04/07/06	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	4.1	9	*	ų	n	ji .	U	
Dibromomethane	ND	4.1	и -	И	14	T T	H	H - 50-	
1,2-Dichlorobenzene	ND .	4.1	ır	78	11	Ð		*	
1,3-Dichlorobenzene	ND	4.1	11	Ħ	**	Π	N N	*	
1,4-Dichlorobenzene	ND .	4.1	11	4	41	н	ч	*	
Dichlorodifluoromethane	ND	4.1		Į	19	0	h	<b>u</b>	
1,1-Dichloroethane	ND	4.1	ıı	н			М	<b>4</b>	
1,2-Dichloroethane	ND	4.1	u a	т. И	U	н	•	4	
1,1-Dichloroethene	ND	4.1	n	н	u	ч	N	1)	
cis-1,2-Dichloroethene	ND	4.1	u	N	н	ч	Ħ	ω 1/	
trans-1,2-Dichloroethene	ND .	4.1	<b>n</b> -30		u	II.	<b>#</b>	le :	
1,2-Dichloropropane	ND	4.1	. 19		u	P	ir	II -	
1,3-Dichloropropane	ND	4.1	. *	n		17	4	11	
2,2-Dichloropropane	ND	4.1		T	w	H	rt	41	
1,1-Dichloropropene	ND	4,1	*	n			rt	19	
cis-1,3-Dichloropropene	ND	4.1	#	11	₩.	IJ	Ŋ	. 4	
trans-1,3-Dichloropropene	ND	4.1	π	U	tn .	á	1)	#	
Ethylbenzene	ND	4.1	н	n	74	10	11	# 4	
Hexachlorobutadiene	ND	4.1	n	0		u	. 10	•	
Isopropylbenzene	ND	4.1		11	u	a	11	π	
p-Isopropyltoluene	ND	4.1	Tr.	11	gNI	*	10	н —	
Methylene chloride	ND	4.1		o	N	9	Ų	11	
Methyl tert-butyl ether	ND	4,1	и -	U	R .	11	U	н	
Nephthalene	ND	4.1		u	, ж	11	D	н	
n-Propylbenzene	ND	4.1	H		2.1		* 4	н	
Styrene	ND	4,1	- 11	11	н	14	u	н *	
1,1,1,2-Tetrachloroethane	ND	4.1	e - B	*		li I	н	Л	
1,1,2,2-Tetrachloroethane	ND	4.1	п	π		m-	н	н	
Tetrachloroethene	ND	4.1	u	11	H	Ú.		It	
Toluene	. ND	4.1	If	*	11	77	N	***	
1,2,3-Trichlorobenzene	ND	4,1	11	×	lj	44	4 1	#	
1,2,4-Trichlorobenzene	ND	4.1	u	. 11	tı .		₩.	*	
1,1,1-Trichloroéthane	ND	4,1	**	ŢÎ	u .	*		R	
1,1,2-Trichloroethane	ND	4.1	**	Ħ	N .	•			
Trichloroethene	ND	4.1	11		4	*	и	n	
Trichlorofluoromethane	ND	4.1	11	n	11	*	n	n	
1,2,3-Trichloropropane	ND	4.1	11	n	11	Ħ	=	u	
1,2,4-Trimethylbenzene	ND	4.1	и	н	u	78	lı	u .	
1,3,5-Trimethylbenzene	ND	4.1	ur o	ıţ		Ħ	ĮI.	AL.	
Vinyl chloride	ND	4,1	п	"	n	#		11	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

## Volatile Organic Compounds by EPA Method 8260B

#### Sierra Analytical Labs, Inc.

Analyte	Result	orting Limit	Unite	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW2-4506-2-10 (0604109-15) Soil	Sampled: 04/05/06 12:0	Rec	eived: 04/	05/06 16:	30	2 -			m.
m,p-Xylene	ND	4,1	µg/kg	1	B6D1019	04/07/06	04/07/06	EPA 8260B	
o-Xylene	ND	4.1	'n	*		Ħ	þ	17	
Surrogate: Dibromofluoromethane	8	8.0 %	80-1	120	"	<i>h</i> -	"	· ir	
Surrogate: Toluene-d8		9.5%	81-1	117	17	n	н	"	
Surrogate: 4-Hromofluorobenzene	8	7.1 %	74	121	10	n	н	<i>H</i> =	*
MW2-4506-3-15 (0604109-17) Soil	Sampled: 04/05/06 12:1	0 Rec	eived: 04/	05/06 16:	30				
Benzene	ND	6.0	μ <b>g/kg</b>	1	B6D1019	04/07/06	04/07/06	EPA 8260B	-
Bromobenzene	ND	6.0	#	11	U	u	Ħ	NF ·	•
Bromochloromethane	ND	6.0	19	11	1)		*	er .	
Bromodichloromethane	ND	6.0	1)	14	17	W		· •	
Bromoform	ND	6.0	n	ii i	11	W.	* <b>4</b>		
Bromomethane	ND	6.0	× u	.10	11	*	*	'n	• 0
n-Butylbenzene	ND	6.0	H *	-	ď	11	11	n	-
sec-Butylbenzene	ND	6.0	U	#	н	11	. 01	η	
teri-Butylbenzeno	ND	6.0	"		11	11	-11		
Carbon tetrachloride	ND	6.0	ı,	=	#	Ħ	Ħ	· • • • • •	
Chlorobenzene	ND	6.0	н =	w	=	и	ır	и .	
Chloroethane	ND	6.0	n	п	*	16	II.	11	**
Chloroform	ND	6.0	π	11	π	11	II.	и	
Chioromethane	ND	6.0	4	u	m	U	**	Н	
2-Chlorotoluene	ND	6.0		*	н	ti.	"	н	* *
4-Chlorotoluene	ND	6.0	*	*	п.,		п	н	
Dibromochloromethane	ND	6.0	11		u .	н	ď	Fr	
1,2-Dibromo-3-chloropropane	ND	6.0	U		u,	*		"	
1,2-Dibromoethane (EDB)	ND	6.0	п		"		*	н -	
Dibromomethane	ND	6.0		' n	11	₩	*	D.	
1,2-Dichlorobenzene	ND	6.0	u u	11	11	*	₩.	- S 1 0	
1,3-Dichlorobenzene	ND	6.0		ч	. 01	**	Ħ	н	
1,4-Dichlorobenzene	ND	6.0		11	Hr	н	h	· 0	
Dichlorodifluoromethane	ND	6.0	11	U.	п	1I	u		
1,1-Dichloroethane	ND	6.0	ń	II .	₩.	II	0	н	
1,2-Dichloroethane	ND	6.0	M	11	*	u	4	•	
1,1-Dichloroethene	ND	6.0	Pt .	77	Ħ	17	11		
cis-1,2-Dichloroethene	ND	6.0	lr .	я	n,	17	P	91	
trans-1,2-Dichloroethene	ND	6.0	U	**	U	17	11	77	
1,2-Dichloropropane	ND	6,0	w.	. *	ĮĮ.	11	п	π	
1,3-Dichloropropane	ND	6.0		Ħ	н	11	U	<b>H</b> 9	
2,2-Dichloropropane	ND	6.0		r		16	n n	u ×	
1,1-Dichloropropene	ND	6.0		U	•	h		ų	
cis-1,3-Dichloropropene	ND	6.0		'n		н	N.	п	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

#### Volatile Organic Compounds by EPA Method 8260B

#### Sierra Analytical Labs, Inc.

	_	orting			W. W.				
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW2-4506-3-15 (0604109-17) Soil	Sampled: 04/05/06 12:10	Rec	eived: 04	05/06 16:	30				
trans-1,3-Dichlerepropene	ND	6,0	μg/kg	1	B@1019	04/07/06	04/07/06	EPA 8260B	
Ethylbenzene	ND	6.0	n	u	17	17	-10	rı	
Hexachlorobutadiene	ND	6.0	11	и .	'n	V	H	n	
Isopropylbenzene	ND	6.0	li ,	u	D	**	0	FF .	
p-lsopropyltoluene	ND	6.0	Ħ	tt	ú	· v	и	"	
Methylene chloride	ND	6.0	ц	π		11	н -	P	
Methyl tert-butyl ether	ND	6.0	q	**	9	* 0	н	"	
Naphthalene	ND	6.0	91	***		11	"	"	
n-Propylbenzene	ND	6.0	16	X 🕶	- 11	n	jr.	P	
Styrene	ND	6.0	11	* 7		11	II:	∞ 0	
1,1,1,2-Tetrachioroethane	ND .	6.0	41	77	B #	N		u	
1,1,2,2-Tetrachloroethane	ND	6.0	11	11	¥	If	v	11	
Tetrachloroethene	ND	6.0	14	11	11	Ħ	n .	11	
Toluene	ND	6.0	H	11	n	9 17	U	п	
1,2,3-Trichlorobenzene	ND	6.0	π	e	-,0	•		₩	*
1,2,4-Trichlorobenzene	· ND	6.0	Ħ	N	0.	π	В	•	
1,1,1-Trichloroethane	ND	6.0	*	v		₩		7	
1,1,2-Trichloroethane	· ND	6.0	Ħ	17	Bł.	71	*	71	
Trichloroethene	ND	6.0	P	11	ft.	Ħ		ft	
Trichlorofluoromethane	ND	6.0	H	н	IP	п	71	N	
1,2,3-Trichloropropane	ND	6.0		11	11	п	7	ч	
1,2,4-Trimethylbenzene	ND	6.0	n	и	II.	u	Ħ	u	
1,3,5-Trimethylbenzene	ND	6.0	H	Ħ	a	49	tn .	h	
Vinyl chloride	ND	6.0	*	H	ш	11	11	ч	
m,p-Xylene	ND	6.0			н	11	n	· · · · · ·	
o-Xylene	ND	6.0	*	<b>F</b>	Ħ	4	li .	17	
Surrogate: Dibromofluoromethane	8'	7.7%	80-	120	n	п	11	ir	
Surrogate: Toluene-d8	89	2.4 %	81-	117	JI	"	n	#	
Surrogate: 4-Bromofluorobenzene	8:	7.4 %	74.	121	n	•	**	n	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

## Volatile Organic Compounds by EPA Method 8260B

#### Sierra Analytical Labs, Inc.

Analyze	_	eting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Meta
						richaica	Analyzed	Meniod	Notes
MW2-4506-4-25 (0604109-19) Soil	Sampled: 04/05/06 12:20	Rec	eived: 04	/05/06 16:	30				
Benzene	ND	5.0	μg/kg	1	B6D1019	04/07/06	04/07/06	EPA 8260B	
Bromobenzene	ND	5.0	II	(I	н	tr	7	H	
Bromochloromethane	ND	5.0	II	ţı	n	11	n	H	
Bromodichloromethane	ND	5.0	P ×	n	- C - P	η	U	H:	
Bromoform	ND	5.0	et E	TP	শ	<b>11</b> .	U	ų oʻ	
Bromomethane	ND	5.0	*	**	**	II	W	* R	
n-Butylbenzene	9.2	5.0	₩	ч	*	l)	п	M	
sec-Butylbenzene	48	5.0	* **	11	*	IJ	Ħ	*	
tert-Butylbenzene	ND	5.0	TI .	u	**	ון	и	. М	0
Carbon tetrachloride	ND	5.0	u	Ħ		*	17	и	
Chlorobenzene	ND	5.0	U	h	u	R	11		
Chloroethane	ND	5.0	Ħ	11	н	P	A	Ħ	
Chloroform	ND	5.0	19	. 10	11	N	ч		
Chloromethane	ND	5.0	19	11	ŢĪ	ч	N	N	
2-Chlorotoluene	ND	5.0	*	II	17	11	n	11	•
4-Chlorotoluene	ND	5.0	7 -	IJ	10	0	14	H.	
Dibromochloromethane	ND	5.0	y y	II	17	Œ	n	- H	
1,2-Dibromo-3-chloropropane	ND	5.0	71	II.	17	Ħ	II	н	·-
1,2-Dibromoethane (EDB)	ND	5.0	0	**	17	п	ŋ	D	•
Dibromomethane	ND	5.0	**	n	Ħ	77		P 5	*
1,2-Dichlorobenzene	ND	5.0	N	**	H	Ħ	*	tr ,	*
1,3-Dichlorobenzene	ND	5.0	÷ U	77	*	#	7	- II	5.
1,4-Dichlorobenzene	ND	5.0	п	a	77	н	*		
Dichlorodifluoromethane	ND	5.0			H	и	W	•	(1)
1,1-Dichloroethane	ND ND	5.0	II.	u	4	U	п	M	
1,2-Dichloroethane	ND	5.0	11		U	u	. "	4	* .
1,1-Dichloroethene	ND	5.0	п.	11	tt	n n	u ···	n a	
cis-1,2-Dichloroethene	ND	5.0	9	11	h	h	19	<b>11</b>	
trans-1,2-Dichloroethene	ND	5.0	ti.	19	n	Ħ	<b>n</b>	н	
1,2-Dichloropropane	ND	5.0		* 11	n	Ĥ	**	a	
1,3-Dichloropropane	ND	5.0	ft	11	*11	ĮI.	11	n	
2,2-Dichloropropane	ND	5.0	*	11	"	U	"	lπ	
1,1-Dichloropropene	ND	5.0	47	**	18	tr	"	н	
cis-1,3-Dichloropropene	ND	5.0	*	11	11	ft.	0 0	10	
trans-1,3-Dichloropropene	ND	5.0	u	P	U	**	B	· u	
Ethylbenzene	19	5.0	u,	и	ır	#	11	11	
Hexachlorobutadiene	ND	5.0	u	- 10	**	•	0	11	
Isopropylbenzene	110	5.0	u	ři	н	M	11	ti	
p-Isopropyitoluene	9.0	5.0	н	н	Ħ	4	It	.01	
Methylene chloride	ND	5.0	н	ţl	"	n	II.	1m	
Methyl tert-butyl ether	ND	5.0	11	ĮI.	ш	U	17	H	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

# Volatile Organic Compounds by EPA Method 8260B

#### Sierra Analytical Labs, Inc.

Analyto	- A	orting Limit	Unita	Dilution	Batch	Prepared	Analyzed	Method	Note
						rieparen	Analyzou	Method	NOP
MW2-4506-4-25 (0604109-19) Soil	Sampled: 04/05/06 12:20	Rec	eived: 04/	05/06 16:3	30			,	
Naphthalene	320	5.0	µg/kg	,1	B6D1019	04/07/06	04/07/06	EPA 8260B	
n-Propylbenzene	98	5.0	Ħ	и ,	), p	11	v	1	
Styrens	ND	5.0	U	13	P	n	0		
1,1,1,2-Tetrachloroethane	ND	5.0	H	"	η .	77	ų	9	
1,1,2,2-Tetrachloroethane	ND	5.0	η.	"	n		11	•	
Tetrachloroethene	ND	5.0	11	17	U	*	14	#t	
Toluene	ND	5.0	ur .	11	u		38	ग	
1,2,3-Trichlorobenzene	ND	5.0	¥	17	ø	¥	IN	*	
1,2,4-Trichtorobenzene	ND	5.0	W.	IF.	Ħ	ч	- 14	η	
1,1,1-Trichloroethane	ND	5.0	19	tr	* ч	Ħ	l1	11	
1,1,2-Trichloroethane	ND	5.0	ij.	"	W	II .	. 0	Œ	
Trichloroethene	ND	5.0	11	U	÷	ч	71	91	
Trichlorofluoromethane	ND	5.0	11 ,	н	TF	4	n	n	
1,2,3-Trichloropropane	ND	5.0	п	lt.	*	41		"	
1,2,4-Trimethylbenzene	ND	5.0		(1			1	P	
1,3,5-Trimethylbenzene	ND	5.0	*	It	1)	m			
Vinyl chloride	ND	5.0	17	14	u	r	T)	u u	
m,p-Xylene	ND	5.0	η		<sub>2</sub> a - 1	0	**	'n	
o-Xylene	ND	5.0	n	•	d	u	7	9	
Surrogate: Dibromofluoromethane	86	.8%	80-	120	ń	11	, m	u .	
Surrogate: Toluene-d8		.8%		117	62	#	#	u ·	
Surrogate: 4-Bromofluorobenzene		1.8 %	74-		"	"	M	ar ·	
MW2-4506-5-35 (0604109-21) Sail	Sampled: 04/05/06 12:50	Rec	cived: 04	/05/06 16:	30			*	
Benzene	ND	5,0	µg/kg		B6D1019	04/07/06	04/07/06	EPA 8260B	
Bromobenzene	ND	5.0	hanka.	. 1	DODIOIA	04/07/00 h	04/07/06	EPA 6200B	
			0	ı,	17			'n	
Bromochloromethane	ND	5.0	h	"	"	"	,		
Bromodichloromethane	ND	5.0	" P	"	p P	"			
Bromoform	ND	5.0	, b			"	"	e "	
Bromomethane	ND	5.0			" "	"	,	*	
n-Butylbenzene	ND	5.0	,		u U	"		4	
sec-Butylbenzene	94	5.0	-	# H	, n		и н	"	
tert-Butylbenzene	9.2	5.0		-		-	"	17	
Carbon tetrachloride	ND	5.0	н	11		"	ti –	π'	
Chlorobenzene	ND	5.0	1)	1)	h -		7		
Chloroethane	ND	5.0	*	"	₩.	σ	⊕ <b>†</b>		
Chloroform	ND	5.0	•	"	₹	н	7		-
Chloromethane	ND	5.0	W	n	41	#	•	*	
2-Chlorotoluene	ND	5.0	74	ч	n	#	1	×	
					Ħ	14			
4-Chlorotoluene	ND	5.0	π	11	n			-	



5455 Garden Grove Blvd, Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

# Volatile Organic Compounds by EPA Method 8260B

Sierra Analytical Labs, Inc.

Analyte	-	orting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	***
				,,,,,,,,,,,		Prepared	Analyzed	Memod	Note
MW2-4506-5-35 (0604109-21) Soil	Sampled: 04/05/06 12:50	Rec	elved: 04	/05/06 16:	30				
1,2-Dibromo-3-chloropropane	ND	5.0	μg/kg	. 1	B6D1019	04/07/06	04/07/06	EPA 8260B	-
1,2-Dibromoethane (EDB)	ND	5.0	u	u	Ħ	И	я .	D ag	
Dibromomethane	ND	5.0	n	íi .	11	N	N	**n	
1,2-Dichlorobenzene	ND	5.0	19	19	*	11	H	н	
1,3-Dichlorobenzene	ND	5.0	11	77	₩	11		n	
1,4-Dichlorobenzene	ND	5.0	41	M	н	II	R .	tr -	÷
Dichlorodifluoromethane	ND	5.0	<b>!</b> !	71	11	0	11	<b>π</b> ⊕	
1,1-Dichlorocthane	ND	5.0	ĵi,	n		11	u	Ħ	1 - 1
1,2-Dichloroethane	ND	5.0	ĮI.	*	*	u		ti i	
1,1-Dichloroethene	ND	5,0	ı,		Ħ	IJ	IF.	W.	
cis-1,2-Dichloroethene	NĎ	5.0	P			17	170	*	4
trans-1,2-Dichloroethene	ND	5.0	19	11	11	-40		*	
1,2-Dichloropropane	ND	5.0	n	•	=	· N	н	н .	1 3
1,3-Dichloropropane	ND	5.0	a	*	w	ц	H.	н	
2,2-Dichloropropane	ND	5.0	#	v	. 0	m .	m m	п	
1,1-Dichloropropene	ND	5.0	*	ft.	47	Pr Pr		*	
cis-1,3-Dichloropropene	ND	5,0	7	Ħ	11	N	H	*	
trans-1,3-Dichloropropene	ND	5.0	n	11	T 11	₩	11	11	
Ethylbenzene	ND	5.0	1)	1)	1)	n	U	ч	
Hexachlorobutadiene	ND	5.0	77	**	47	n	TT .	Ħ	
Isopropylhenzene	160	5.0	w		ri	Ħ			
p-Isopropyltoluene	20	5.0		п	11	<b>1</b> 0	1	41 ,	ň.
Methylene chloride	ND	5.0		m	н	4	11	N .	
Methyl tert-butyl ether	ND	5.0	н			u ·	ti <sup>†</sup>	н :	
Naphthalene	11	5.0	77	R	ır	liy.	*	и	
n-Propylhenzene	81	5.0	17	41	н	11	19		
Styrene	ND	5.0	41	11	n B	11	16	н	
1,1,1,2-Tetrachloroethane	ND	5.0	u	11	11	91	11	4	
1,1,2,2-Terrachloroethane	ND	5.0	N		*	н	n	a '	
Tetrachloroethene	ND	5.0	и	4	*	и	п	Ħ	
Toluene	ND	5.0	**	11	ĸ	Ħ	н	Ψ.	
1,2,3-Trichlorobenzene	ND	5.0	R	b	įt.	It	It	11	i.
1,2,4-Trichlorobenzene	ND	5.0		п	0	п	н		
1,1,1-Trichloroethane	ND	5.0	н	11	11	н	Ħ	19	,
1,1,2-Trichloroethane	ND	5.0	н	ų	,,	Į/	а	n .	
Trichloroethene	ND	5.0	<b></b>	ıı	и	11	Ų	#	*
Trichlorofluoromethane	ND	5.0		- 0	11			11	
1,2,3-Trichloropropane	ND	5.0		11	11	,	1	u	*
1,2,4-Trimethylbenzene	ND	5.0		"	(1	tı	,	*	T-
1,3,5-Trimethylbenzene	ND ND	5.0	и и	FI.	n.	#	u	 Is	
Vinyl chloride	ND	5.0		11	II.	*	ĸ		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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5455 Garden Grove Blvd, Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

## Volatile Organic Compounds by EPA Method 8260B

#### Sierra Analytical Labs, Inc.

Analyte	Rosult	Reportis Lin	_	Dilution	Batch	Prepared	Analyzed	Method	Note
MW2-4506-5-35 (0604109-21) S	oil Sampled: 04/05/06 1	2:50 I	Received:	04/05/06 16	:30		······································		-
m,p-Xylene	ND	. 5		i	B6D1019	04/07/06	04/07/06	EPA 8260B	
e-Xylene	ND	5	.0 "	rl	U	11	U .	7	
Surrogate: Dibromofluoromethan	e	86.2	% 8	0-120	μ.	r r	ļī	n .	
Surrogate: Toluene-d8		85.0	% 8	11-117	#	#	Tf .	#	
Surrogate: 4-Bromofluorobenzene		86.6		4-131	,,	*	"	r	
EB 4506 (0604109-22) Liquid	Sampled: 04/05/06 08:00	Recei	ved: 04/05	i/06 16:30					
Benzene	ND	1	.0 μg/L	1	B6D1044	04/10/06	04/10/06	EPA 8260B	
Bromobenzene	ND		.0 "	#		11	9	* n	
Bromochloromethane	ND		.0 "	Ħ	0 ×	ч	ų	11	
Bromodichloromethane	ND	_	.0 "	π	#	9	11	11	
Bromoform	ND		.0 ""	11	-9	11	11	H	
Bromomethane	ND		.0 "	n	*	11	19	h	
n-Butylbenzene	ND		" 0,	*	w	11	И	н.,	
sec-Butylbenzene	ND	1	.0 "	7	п	Ħ	п	Ð	
tert-Butylbenzene	ND	1	.0 п	. 7	н		н	II.	
Carbon tetrachloride	ND		.0	Ħ	9		a a	0	
Chlorobenzene	ND	1	.0 "	U	ıć	ri	ìr	11	
Chloroethane	ND		.0 "	tr	11	Ħ	p	*	
Chloroform	ND	1	.0 "	17	41	#	н	*	
Chloromethane	ND	5	.0 "	'n	IT	41	11	# -	
2-Chlorotoluene	ND		۳ 0.	11	n	77	Ħ	n	
4-Chlorotoluene	ND	1	.0 *	II	Ħ	¥	Ħ	Ħ	
Dibromochloromethane	ND	1	.0 "	и	H	1	•	H	
1,2-Dibromo-3-chloropropane	ND	5	.0 "	H	· (I	И		n	
1,2-Dibromoethane (EDB)	ND	1	.0 . "		ĮĮ.		Ħ	W	
Dibromomethane	ND	1	۳ 0.	19	**	tt		*	
1,2-Dichlorobenzene	ND	1	.0 *	ţi .	**	17	**	Ħ	
1,3-Dichlorobenzene	ND	1	.0 "	Œ	*	11	• '	ħ	
1,4-Dichlorobenzene	ND	1	۳ 0.	11	*	n	79	н	
Dichlorodifluoromethane	ND	5	n 0,	10	7	11		u (0)	
1,1-Dichloroethane	ND	1	.0 "	Ħ	ı)	М	h	ч	
1.2-Dichloroethane	ND	1	.0 "	п	Ţī.	l1	ų.	11	
1,1-Dichloroethene	ND		.0 "	'n	*	и	H	17	
cis-1,2-Dichloroethene	ND		.0 "	u	*	н	41-		
trans-1,2-Dichloroethene	, ND		.0 "	11		II	11	19	
1,2-Dichloropropane	ND	1	.0 "	"	78	II	D	II	
1,3-Dichloropropane	ND		.0 "	11	n	Ŋ	lu .	n	
2,2-Dichloropropane	ND		.0 *	11	u	ogo e	Ħ	н	
1,1-Dichloropropene	ND		.0 n	If '	ic	U	II		
cis-1,3-Dichloropropene	ND		.0 "	. "	11	а	N	*	



5455 Garden Grove Blvd, Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

#### Volatile Organic Compounds by EPA Method 8260B

#### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
EB 4506 (0604109-22) Liquid	Sampled: 04/05/06 08:00	Received	04/05/	06 16:30					····
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	B6D1044	04/10/06	04/10/06	EPA 8260B	
Ethylbenzene	ND	1.0		11	#	H	11	Ħ	
Hexachlorobutadiene	ND	1.0	If.	*	*	*	11	. W.	
Isopropylbenzene	ND	1,0	er		BI	11	, a	. o <b>ч</b> ;	
p-Isopropyltoluene	ND	1.0	r r	ij	() <b>F</b>	u	II.	п	
Methylene chloride	ND	1.0	7	- n	17	n	•	1)	
Methyl teri-butyl ether	ND	1.0	77	11	11	•	N	* 4	
Naphthalene	ND	1.0	a a	**	41	N *	н	II:	
n-Propylbenzene	ND	1.0	n	"	II.		H	п	
Styrene	ND	1.0	¥	Л	19	H	PT .	u ,	
1,1,1,2-Tetrachloroethane	ND	1.0	1	В	1)	•	. •	9	
1,1,2,2-Tetrachloroethane	ND	1.0	v	11	H	\u00e4	H	r	± +
Tetrachloroethene	ND	1.0	ų	Р .	Ш	1)	V	N .	
Toluene	ND	1.0	п	n/	11	n	fr +	ìı	S. S.
1,2,3-Trichlorobenzene	ND	1.0	ч		н	11		H	
1,2,4-Trichlorobenzene	ND	1.0	11	U	r r	11	N	₩	
1,1,1-Trichloroethane	ND	1.0	n	(c) <b>T</b>	n	Ħ	11	<b>N</b> -	*
1,1,2-Trichloroethane	ND	1.0	п	#		þi	V.	Ü .	
Trichloroethene	ND	1.0	н	77	•	11	п	li 🔆	
Trichlorofluoromethane	ND	5.0	u	ш	n	U	16	n	
1,2,3-Trichloropropane	ND	5.0	v	11	#	ìr	11	я	
1,2,4~Trimethylbenzene	ND	1.0	It	*	π	ji .	11	-	
1,3,5-Trimethylbenzene	ND	1.0	*	11	н	u	н	li .	
Vinyl chloride	ND	5.0	ħ	ū	п	U	l1	11	
m,p-Xylene	ND	1.0	π	II	*	ч	ĮĮ.	11 .	*
o-Xylene	ND	1.0		•	u	*		. и	
Surrogate: Dibromofluorometho	ine	101 %	8	6-118	п	n	fr	"	
Surrogate: Toluene-d8		98.8 %	8	8-110	n	n*		n	1
Surrogate: 4-Bromofluorobenze	ne	97.0%	. 8	6-115	"	IF	h	# - 10°	•

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5455 Garden Grove Bivd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

## Volatile Organic Compounds by EPA Method 8260B

#### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
TB 4506 (0604109-23) Liquid	Sampled: 04/05/06 00:00	Received	: 04/05/0	6 16:30					
Benzene	ND	1.0	μg/L	1	B6D1044	04/10/06	04/10/06	BPA 8260B	
Bromobenzene	ND	1.0	11	*	rţ.	n	Ħ	71	0.00
Bromochloromethane	ND	1.0	ti	Ħ	Ħ	*	я	•	
Bromodichloromethane	ND	1.0	0	11	u	#	H	e**	-
Bromoform	ND	1.0	H	11	9	. и	IP .	Ħ	
Bromomethane	ND	5.0		U	11	er .	U U	H	
n-Butylbenzene	ND ·	1.0	D	lu	10	*	(r	"	
ee-Butylbenzene	ND	1.0	IJ	<b>m</b>	11	ijξ	и 🖹	n	
ert-Butylbenzene	ND	1.0	"	*	<b>b</b>	9 0	11	e H	
Carbon tetrachloride	ND	1.0	"		п	1)	¥	19	
Chlorobenzene	ND	1.0	Ħ	₩.	н	11		¥	
Chloroethane	ND	5.0	#	(1	þi	11	П	Ħ	
Chloroform	ND	1.0	77	u	И	11	U B	* 1	
Chloromethane	ND	5.0	U	u	tr .	н	ч	η	
2-Chlorotoluene	ND	1.0	D	41	0	PI	11	11	
-Chlorotoluene	ND	1.0	W	11	15	90	110	Al .	
Dibromochloromethane	ND	1.0	-	11	74	II	U.	Nr.	
,2-Dibromo-3-chloropropane	ND	5.0	w	н	14	D	IP	l/	
,2-Dibromoethane (EDB)	ND	1.0	*1	N	*	ø	II.	II.	
Dibromomethane	ND	1.0	Ή		=	1)	н	ıı,	
.2-Dichlorobenzene	ND	1.0	U.	P	U	Ħ		IJ	
,3-Dichlorobenzene	ND	1.0	w	4	n	11		<b>N</b>	
,4-Dichlorobenzene	ND	1.0	19	lı	**	*	rt		
Dichlorodifluoromethane	ND	5.0	n	-1	#	#	₹7		
1,1-Dichloroethane	ND	1.0	н	**	Ħ	ı,	17	÷ 11	
1,2-Dichloroethane	ND	1.0	N	11	у	u.	#	47	
1,1-Dichloroethene	ND	1.0	7	и	11	11	1	n	
cis-1,2-Dichloroethene	ND	1.0	n	1)	-40		*	Ħ	
brans-1,2-Dichloroethene	ND	1.0	. 11	n	11	*		•	
1,2-Dichloropropane	ND	1.0	п	u	et .	*	H	и	
1,3-Dichioropropane	ND	1.0	er	ŋ	н	P	9	M	
2,2-Dichloropropane	ND	1.0	=	11	Į,	n	9	p.	
l,1-Dichloropropene	ND	1.0	#	16	i.	lı .	q	U	
cis-1,3-Dichloropropene	ND	1.0	71	11	,	91	11	u	
rans-1,3-Dichloropropene	ND	1.0	11	lt .	H	,		9	
rans-1,3-Diemoropropene Ethylbenzene	ND	1.0	n	 H	N .	11	lı	9	
Etnyloenzene Hexachlorobutadiene	ND	1.0		"				. 11	
			"	"	,		"	"	
Isopropylbenzene	ND	1.0	11	"	,		н	í.	
p-Isopropyltoluene	ND	1.0		"	n	u	n N	11	
Methylene chloride	ND	1.0	. н	-	n 11	"			
Methyl tert-butyl ether	ND	1.0	10	u u	**	н	II	- 9	

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5455 Garden Grove Bivd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

#### Volatile Organic Compounds by EPA Method 8260B

#### Sierra Analytical Labs, Inc.

Analyte	<del></del> .	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB 4506 (0604109-23) Liquid	Sampled: 04	/05/06 00:00	Received	: 04/05/00	6 16:30					
Naphthalene		ND	1.0	μg/L	1	B6D1044	04/10/06	04/10/06	EPA 8260B	····
n-Propylbenzene		ND	1.0	н .	<b>5</b> †	н	. 4	19	ti.	
Styrene		ND	1.0	11	17	u	tr	If	, tr	
1,1,1,2-Tetrachloroethane		ND	1.0	. 4	11	, 11	**	ly.	n	
1,1,2,2-Tetrachloroethane		ND	1.0	41	11	. H	**	U	Ħ	•
Tetrachloroethene	• •	ND	1.0	11	19	Ħ	17	. #	Ħ	
Toluene	•	ND	1.0	19	11	Ħ	19	n .	Ħ	
1,2,3-Trichlorobenzene		ND	1.0	. 17	· · ·	H	19	II .		
1,2,4-Trichlorobenzene		ND .	1.0	19	н	*1	19		**	
1,1,1-Trichloroethane	-	ND	1.0	В	n		<b>9</b> .	II .		1
1,1,2-Trichloroethane		ND .	1.0	H	U	**	n	II	R .	
Trichloroethene		ND	1.0	· h	п	N	. 11	u		
Trichlorofluoromethane		ND	5.0	tt	u	#	11	Ħ	17	•
1,2,3-Trichloropropane		ND	5.0	H	Ħ	ų	H	Ħ	11	<del>-</del>
1,2,4-Trimethylbenzene		ND	1.0	H	н .	R	11	11	11	•
1,3,5-Trimethylbenzene		ND	1.0	. 11	Tr ·		н	11	"	
Vinyl chloride		ND	5,0	#1	"	17	н.,	11	11	
m,p-Xylene		ND	1.0	Ħ	11	19	Ħ	11	11	
o-Xylene	.*	ND	1.0	Nr.	17	¥.	71	11	. 11	
Surrogate: Dibromofluorometha	ine		101 %	86-	118	н	"	ıi .	n .	
Surrogate: Toluene-d8			98.8 %	88-	110	"	#	n	, ,	43. ·
Surrogate: 4-Bromofluorobenze	ne		98.8 %	<i>86-</i>	115	. #	#	Ħ	<i>n</i>	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

## Metals by EPA 6000/7000 Series Methods - Quality Control

#### Sierra Analytical Labs, Inc.

Analyta	Result	Reporting Limit	Unita	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D1024 - EPA 3050B					8 7					
Blank (B6D1024-BLK1)	121			Prepared	& Analyze	ed: 04/10/	06			
Antimony	ND	1.6	тұ/қа							
Arsenic	ND	1.7	M e							
Barium	· ND	3.3	Ħ						•	
Beryllium	ND	0.75	19	•	X.					
Cadmium	ND	0.51	10							
Chromium	ND	0.98	t)							
Cobalt	ND	2.2	11							
Copper	ND	2.2	11							
Lead	ND .	1.3	IJ							
Molybdenum	ND	1.7	п							
Nickel	ND	0.79								
Selenium	ND	1.9	#							
Silver	ND	0.80	- 11						8	
Thallium	ND	1,5	n ·							
Vanadium .	ND	0.73	17							
Zinç	ND	1.3	11							
LCS (B6D1024-BS1)		-		Prepared	& Analyz	ed: 04/10/	06			
Antimony	<b>107</b>	1,6	mg/kg	100		107	75-125			
Arsenic	92.5	1.7	н	100		92.5	. 78-122			
Barium	90.4	3.3	H	100		90.4	80-120			
Beryllium	94.2	0.75	U	100		94,2	80-120			
Cadmium	90.2	0.51	11	100		90.2	80-120			
Chromium	95.3	0.98	lr	100		95.3	80-120			
Cobalt	94.0	2.2	u	100		94.0	80-120			
Copper	90.3	2.2	n	100		90,3	78-122			
Lead	92,0	1.3	ħ	100		92.0	80-120			
Molybdenum	102	1.7	4	100		102	80-120			
Nickel	90.7	0.79	H	100		90.7	80-120			
Selenium	86.5	1.9	W	100		86.5	76-124			
Silver	92.9	0.80	#	100		92.9	60-140			
Thallium	91,0	1.5	8.0	100		91.0	80-120			
Vanadium	91.4	0.73	w	100		91.4	80-120			
Zinc	86.1	1.3	n	100		86.1	78-122			



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

#### Metals by EPA 6000/7000 Series Methods - Quality Control

#### Sierra Analytical Labs, Inc.

		Reporting		S <del>p</del> ike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD.	Limit	Notes
Batch B6D1024 - EPA 3050B							• .			
LCS Dup (B6D1024-BSD1)				Prepared	& Analyz	ed: 04/10/	06			
Antimony	111	1.6	mg/kg	100		111	75-125	3.67	20	
Arsenic	<b>92</b> .7	1.7	Ħ	100		92.7	78-122	0.216	20	-
Barium	90.4	3.3	li li	100		90.4	80-120	0.00	20	
Beryllium	88.7	0.75	- H.	100		88.7	80-120	6.01	20	
Cadmium	90.4	0,51	n	100		90.4	80-120	0.221	20	
Chromium	96.1	0.98	Ħ	100		96,1	80-120	0.836	20	
Cobalt	93.8	2,2	Ħ	100		93.8	80-120	0.213	20	
Copper	91.7	2.2	ff	100		91.7	78-122	1.54	20	
Lead	93.1	1.3	Ħ	100	•	93.1	80-120	1.19	20	
Molybdenum	105	1.7	. 4	100		105	80-120	2,90	20	
Nickel	90.3	0.79	W	100		90.3	80-120	0.442	20	19.3
Selenium	88.2	1.9	17	100		88.2	76-124	1.95	20	7. 1
Silver	92.8	0.80	19	100		92.8	60-140	0.108	40	
Thallium	91.2	1.5	н	100	÷	91.2	80-120	0.220	20	
Vanadium	91.6	0.73	11	100		91.6	80-120	0.219	20	
Zinc	86.0	1,3	n	100		86.0	78-122	0.116	20	•
Matrix Spike (B6D1024-MS1)	Sou	rce: 060411	7-01	Prepared	& Analyz	ed: 04/10/	06			
Antimony	44.5	1.6	mg/kg	94.7	0.75	46.2	60-140			QM-(
Arsenic	94.6	1.7	41.	94.7	7.9	91.6	70-130			
Barium	252	3,3	W	94.7	160	97.1	70-130			
Beryllium	93.9	0.75	. 18	94.7	0.54	98.6	70-130			÷ .
Cadmium	87.7	0.51	. 17	94.7	0.23	92,4	70-130			
Chromium	147	0.98	17	94.7	60	91.9	70-130			
Cobalt	101	2.2	17	94.7	16	89.8	70-130			.•
Copper	126	2.2	li	94.7	42	88.7	70-130			
Lead	96.7	1.3	. 0	94.7	11	90,5	70-130		•	
Molybdenum	92.7	1.7	*1	94.7	0.53	97.3	70-130			
Nickel	149	0.79	Ħ	94.7	64	89.8	70-130			
Selenium	89.8	1.9	#1	94.7	4.5	90.1	70-130			
Silver	85.0	0.80	¥	94.7	ND	89.8	60-140			
Thallium		1.5	11	94.7	ND	81.7	70-130			4.0
THAMON	77,4									
Vanadium	140	0.73		94.7	53	91.9	70-130			

E-MAIL: SIERRALABS @ SIERRALABS.NET

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5455 Garden Grove Blvd. Suite 200 Westminster CA, 92683 Project APC
Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

## Metals by EPA 6000/7000 Series Methods - Quality Control

#### Sierra Analytical Labs, Inc.

Апајуге	Rosult	Reporting Limit	Units	Spike Leval	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Batch B6D1024 - EPA 3050B					-	*	*		÷	
Matrix Spike Dup (B6D1024-MSD1)	Sou	urce: 060411	7-01	Prepared	& Analyze	d: 04/10/	06			
Antimony	48.0	1.6	mg/kg	99.7	0.75	47.4	60-140	7.57	20	QM-07
Arsenic	101	1.7	n	99.7	7.9	93.4	70-130	6.54	20	
Barium	260	3.3	N	99.7	160	100	70-130	3.12	20	
Beryllium	99.0	0.75	H	99.7	0.54	98.8	70-130	5.29	20	
Cadmium	96.0	0.51	H	99.7	0.23	96.1	70-130	9.04	20	
Chromium	155	0.98		99.7	60	95.3	70-130	5.30	20	
Cobalt	107	2,2	'n	99.7	16	91.3	70-130	5.77	20	
Copper	136	2,2	Ħ	99.7	42	94.3	70-130	7.63	30	
Lead	103	1.3	H	99.7	11	92.3	70-130	6.31	20	,
Molybdenum	99.5	1.7	Œ	99.7	0.53	99.3	70-130	7.08	20	
Nickel	158	0.79	44	99.7	64	94.3	70-130	5.86	20	
Selenium	95.2	1.9	u	99.7	4.5	91.0	70-130	5.84	20	
Silver	90.4	0.80	"	99.7	ND	90.7	60-140	6,16	40	
Thallium	83.1	1.5	11	99.7	ND	83.4	70-130	7.10	20	
Vanadium	146	0.73	И	99.7	53	93.3	70-130	4.20	20	* '
Zinc	177	1.3	Ţŕ	99.7	79	98.3	70-130	12.0	20	
Batch B6D1025 - EPA 7471A						*				
Blank (B6D1025-BLK1)				Prepared	04/10/06	Anelyzoo	1: 04/11/06			
Mercury	ND	0.18	mg/kg							
LCS (B6D1025-BS1)				Prepared	: 04/10/06	Analyzeo	1: 04/11/06			
Mercury	0.19	0.18	mg/kg	0.167		114	70-130			
Matrix Spike (B6D1025-MS1)	So	urce: <b>06041</b> (	9-02	Prepared	: 04/10/06	Analyzeo	1: 04/11/06			
Mercury	0.33	0.18	mg/kg	0.157	0.05	178	70-130			QM-07



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200 Westminster CA, 92683 Project: APC
Project Number: H0287C

Reported: 04/27/06 09:56

Project Manager: Lee Paprocki

## Metals by EPA 6000/7000 Series Methods - Quality Control

#### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%rec	%REC Limits	RPD	RPD Limit	Notes
Batch B6D1025 - EPA 7471A					*	*		1		*
Matrix Spike Dup (B6D1025-MSD1)	Sou	rce: 060410	9-02	Prepared:	04/10/06	Analyzed	i: 04/11/06			
Мегсцгу	0,22	0.18	mg/kg	0.152	0.05	112	70-130	40.0	25	QR-0
Batch B6D1112 - EPA 7470A				*	*			•		
Blank (B6D1112-BLK1)				Prepared &	& Analyza	ed: 04/11/	06			
Mercury	ND	0.00073	ng/L			····				
LCS (B6D1112-BS1)				Prepared &	& Analyza	ed: 04/11/	06			
Mercury	0.00101	0,00073	mg/L	0.00100		101	80-120			
Matrix Spike (B6D1112-MS1)	Son	ırce: 060494	6-02	Prepared &	& Analyza	ed: 04/11/	06			
Mercury	0.00112	0.00073	mg/L	0.00100	ND	112	70-130			
Matrix Spike Dup (B6D1112-MSD1)	Son	rce: 060404	6-02	Prepared &	& Analyzo	ed: <b>04/</b> 11/	06			
Mercury	0.00112	0,00073	mg/L	0.00100	ND	112	70-130	0.00	30	<del> </del>
Batch B6D1125 - EPA 3010A Blank (B6D1125-BLK1)	<u></u>			Prepared:	04/11/06	Analyze	1: 04/12/06			
Antimony	ND	0.023	mg/L	- 1						
Arsenic	ND	0.025	n					- 9		,
Barium	ND	0.019	in .							
Beryllium	ND	0.0090	u		*			×		
Cadmium	ND	0.0040	н		-					
Chromium	. ND	0.0060	π							e. (4)
Cobalt	ND	0.0060	#			1				
Copper ·	ND	0.012	**							
Lead	ND	0.019	17							
Molybdenum	ND.	0.028								
Nickel	ND	0.010	Ħ				*			
Selenium	ND	0.026	н							
Silver	ND	0.0030	e							
Thallium	ND	0.011	u				-			
We will be a second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the sec			lų .							
Vauadium	ND	0.012	"							



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200 Westminster CA, 92683 Project: APC
Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

#### Metals by EPA 6000/7000 Series Methods - Quality Control

#### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Unite	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D1125 - EPA 3010A										
LCS (B6D1125-BS1)				Prepared:	04/11/06	Analyzed	04/12/06		-	
Antimony	0.201	0.023	mg/L	0.200		100	80-120			
Arsenic	0.173	0.025	II .	0.200	*	86.5	80-120		-	
Barium .	0.205	0.019	11	0.200		102	80-120			
Beryllium	0.205	0.0090	ų.	0.200		102	80-120			
Cadmium	0.190	0.0040	41	0.200		95.0	80-120			
Chromium	0.207	0.0060	17	0,200		104	80-120			
Cobalt	0.213	0.0060	. 10	0.200		106	80-120			
Copper	0.222	0.012	lé	0.200		111	80-120			
Lead	0.212	0.019	n	0.200		106	80-120			
Molybdenum	0.204	0.028		0.200	a.	102	80-120			
Nickel	0.208	0.010		0.200		104	80-120			
Selenium	0.173	0.026	r	0.200	4	86.5	80-120			
Silver	0.201	0.0030	41	0.200		100	80-120			
Thallium	0.190	0.011	Œ	0.200		95,0	80-120			
Vanadium	0.203	0.012		0.200		102	80-120			
Zinc	0.178	0.024	R	0.200		89.0	80-120		-	
Matrix Spike (B6D1125-MS1)	Son	urce: 060412	3-17	Prepared:	04/11/06	Analyzed	: 04/12/06		-	
Antimony	0.200	0.023	mg/L	0,200	0.0074	96.3	75-125			
Arsenic	0.165	0.025	u	0.200	ND	82.5	75-125			
Barium	0.200	0.019	11	0.200	ND	100	75-125		*	
Beryllium	0.200	0.0090	11	0.200	ND	100	75-125			
Cadmium	0.185	0.0040	И	0.200	0.00092	92.0	75-125			
Chromium	0.202	0.0060	н	0.200	ND	101	75-125		8	
Cobalt	0.208	0.0060	н	0.200	0.0040	102	75-125			
Copper	0.218	0.012	I)	0.200	0.0038	107	75-125			
Lead	0.207	0.019	IP.	0.200	0.013	97.0	75-125			
Molybdenum	0.200	0.028	(1	0.200	ND	100	75-125			
Nickel	0.201	0.010	u	0.200	ND	100	75-125			
Selenium	0.164	0.026	#	0.200	ND	82.0	75-125			
Silver	0.195	0.0030	*	0.200	0.0014	96.8	75-125			
Thallium	0.185	0.011	*	0.200	ND	92.5	75-125			
Vanadium	0.199	0.012	н	0,200	ND	99.5	75-125			
Zinc	0.178	0.024	lı .	0.200	ND	89.0	75-125			



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Project Manager. Lee Paprocki

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#### Metals by EPA 6000/7000 Series Methods - Quality Control

#### Sierra Analytical Labs, Inc.

*		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B6D1125 - EPA 3010A		*								
Matrix Spike Dup (B6D1125-MSD1)	Sou	ırce: 960412	3-17	Prepared:	04/11/06	Analyzed	1: 04/12/06			-
Antimony	0,203	0.023	mg/L	0.200	0.0074	97.8	75-125	1,49	20	
Arsenia	0.170	0.025	11	0.200	ND	85.0	75-125	2.99	20	
Barium	0.204	0.019	11	0.200	ND	102	75-125	1.98	20	
Beryllium	0.205	0.0090	11	0.200	ND .	102	75-125	2.47	20	
Cadmium	0.188	0.0040	11	0.200	0.00092	93.5	75-125	1.61	20	
Chromium	0.207	0.0060	11	0,200	ND	104	75-125	2.44	20	
Cobalt	0.213	0.0060	0	0.200	0.0040	104	75-125	2,38	20	
Copper	0.220	0.012	H	0.200	0.0038	108	75-125	0.913	20	
end	0.212	0.019	ìr	0.200	0,013	99.5	75-125	2.39	20	101
Molybdenum	0.203	0.028	IP.	0.200	ND	102	75-125	1.49	20	
Nickel	0.208	0.010	ır	0.200	ND	104	75-125	3.42	20	-55-
Selenium	0.167	0.026	*	0.200	ND	83.5	75-125	1.81	20	
Silver	0.200	0.0030	**	0.200	0.0014	99.3	75-125	2.53	20	-
Thallium	0.187	0.011	10	0.200	ND	93.5	75-125	1.08	20	
Vanadium	0.203	0.012	77	0.200	ND	102	75-125	1.99	20	
Zine	0.177	0.024	. "	0.200	ND	88.5	75-125	0.563	20	->
Batch B6D1231 - EPA 3060A										
Blank (B6D1231-BLK1)			, <del>,</del>	Prepared	: 04/12/06	Analyze	d: <b>0</b> 4/14/06			
Hexavalent Chromium	ND	0.25	mg/kg	· <u>-</u>						
LCS (B6D1231-BS1)			×-	Prepared	: 04/12/06	Analyze	d: <b>0</b> 4/14/06			
Hexavalent Chromium	2.52	0.25	mg/kg	2.50		101	80-120			5
Matrix Spike (B6D1231-MS1)	So	urce: 060410	9-02	Prepared	: 04/1 <b>2/06</b>	Analyzo	d: 04/14/06			
Haxavalent Chromium	2.30	0.25	rug/kg	2,49	0.15	86.3	75-125		*	



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Project Manager: Lee Paprocki

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## Metals by EPA 6000/7000 Series Methods - Quality Control

#### Sierra Analytical Labs, Inc.

	12.10	Reporting	25040	Spike	Source	and the same	%REC	44-1	RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B6D1231 - EPA 3060A		-								
Matrix Spike Dup (B6D1231-MSD1)	Sou	rce: 060410	9-02	-			: 04/14/06			
Hexavalent Chromium	3.10	0.24	mg/kg	2,37	0.15	124	75-125	29.6	20	QR-0
Batch B6D2113 - EPA 3050B										
Blank (B6D2113-BLK1)				Prepared:	04/21/06	Analyzed	: 04/24/06			
Antimony	ND	1,6	mg/kg				* * * *********			
Arsenic	ND	1.7	tf							
Barium	ND	3.3								
Beryllium	ND	0.75								
Cadmium	ND	0.51	*			8				
Chromium	ND	0.98	n					*		*
Cobalt	ND	2.2	11		1.0					
Соррег	ND	2.2	11							
Lead	ND	1.3	P	22						
Molybdenum	ND	1.7	"							
Nickel	ND	0.79								
Selenium	ND	1.9	"							-
Silver	ND	0.80	ш							
Thallium	ND	1.5	н				•			
Vanadium	ND '	0.73	Ħ							
Zinc	ND	1.3	*							
LCS (B6D2113-B51)	*.			Prepared	: 04/21/06	Analyze	1: 04/ <b>24/</b> 06			
Antimony	121	1.6	mg/kg	100		121	75-125			
Arsenic	116	1,7	π	100		116	78-122			
Barium	107	3.3	n	100		107	80-120			
Beryllium	120	0.75	H	100		120	80-120			
Cadmium	109	0.51	м	100		109	80-120			
Chromium	110	0.98	v	100		110	80-120			
Cobalt	112	2,2	17	100		112	80-120			
Copper	106	2.2	U	100		106	78-122			
Lead	115	1.3	н	100		115	80-120			
Molybdenum	113	1.7	, N	100		113	80-120			
Nickel	111	0.79	•	100		111	80-120			
Seleniam	110	1.9	r r	100		110	76-124			
Silver	111	0.80	H	100		111	60-140			
Thallium	115	1.5	H	100		115	80-120			
Vanadium	107	0.73	H	100		107	80-120			



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Project Manager: Lee Paprocki

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#### Metals by EPA 6000/7000 Series Methods - Quality Control

#### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D2113 - EPA 3050B				•						<del></del>
LCS (B6D2113-BS1)				Prepared:	04/21/06	Analyzed	1: 04/24/06			
Zinc	108	1.3	mg/kg	100		108	78-122			
LCS Dup (B6D2113-BSD1)				Prepared:	04/21/06	Analyzeo	i: 04/24/06			
Antimony	103	1,6	mg/kg	100		103	75-125	16.1	20	
Arsenic	98,3	1.7	11	100		98.3	78-122	16.5	20	
Barium	94.4	3,3	16	100		94.4	80-120	12,5	20	
Beryllium	98,0	0.75	п	100		98.0	80-120	20,2	20	QR-0
Cadmium	93.9	0.51	n .	100		93.9	80-120	14.9	20	-
Chromium	96,9	0.98	H .	100		96.9	80-120	12.7	20	
Cobalt	98.6	2.2	16	100		98.6	80-120	12.7	20	
Copper	92,4	2.2	n	100		92.4	78-122	13.7	20	
Lead	98.3	1,3	**	100		98.3	80-120	15.7	20	
Molybdenum	96.9	1.7	n	100		96.9	80-120	15.3	20	
Nickel	94.5	0.79	n	100		94,5	80-120	16.1	20	
Selenium	94.7	1.9		100		94.7	76-124	14.9	20	
Silver	98.2	0.80		100		98.2	60-140	<b>12.</b> 2	40	
Thallium	98.2	1.5	11	100		98.2	80-120	15.8	20	
Vanadium	94.5	0.73	"	100		94.5	80-120	12.4	20	
Zinc	91.9	1.3	11	. 100		91.9	7 <b>8</b> -1 <b>2</b> 2	16,1	20	
Matrix Spike (B6D2113-MS1)	Sou	ırce: 060410	9-12	Prepared	: 04/21/06	Analyze	d: 04/24/06	;		
Antimony	40,4	1.6	mg/kg	99.8	0.81	39.7	60-140		<del></del>	QM-0
Arsenic	170	1.7	"	99,8	33	137	70-130			QM-0
Barium	331	3.3	Ħ,	99.8	200	131	70-130			QM-0
Beryllium	140	0.75	11	99.8	0.64	140	70-130			QM-0
Cadmium	131	0.51	н	99.8	0,35	131	70-130			QM-0
Chromium	173	0.98	H	99.8	42	131	70-130			QM-0
Cobalt	140	2.2	R	99.8	19	121	70-130			
Copper	171	2.2	**	99,8	38	133	70-130			QM-0
Lead	137	1.3	ų	99.8	7.7	130	70-130			
Molybdenum	125	1.7	U	99.8	1.4	124	70-130			
Nickel	145	0.79	,,	99.8	23	122	70-130		-	
Selenium	133	1.9	11	99.8	2,1	131	70-130		•	QM-(
Silver	120	0,80	Ħ	99.8	ND	120	60~140			-
Thallium	111	1.5	11	99.8	ND	111	70-130			
Vanadium	197	0.73	11	99.8	68	129	70-130			



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Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

## Metals by EPA 6000/7000 Series Methods - Quality Control

#### Sierra Analytical Labs, Inc.

Analyto	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D2113 - EPA 3050B									- 0	
Matrix Spike Dup (B6D2113-MSD1)	Sou	rce: 060410	9-12	Prepared:	04/21/06	Analyzed	: 04/24/06			
Antimony	31,0	1.6	mg/kg	95.5	0.81	31.6	60-140	26.3	20	QM-07 QR-04
Arsenic	136	1.7	11	95.5	33	108	70-130	22.2	20	QR-04
Barium	281	3.3	· à l	95.5	200	84.8	70-130	16.3	20	
Beryllium	109	0.75	N	95.5	0,64	- 113	70-130	24.9	20	QR-04
Cadmium	106	0,51	17	95.5	0.35	111	70-130	21,1	20	QR-04
Chromium	143	0.98	17	95.5	42	106	70-130	19.0	20	
Cobalt	118	2,2	11	95.5	19	104	70-130	17.1	20	
Copper	142	2,2	R	95.5	38	109	70-130	18.5	30	
Lead	110	1.3	M	95.5	7.7	107	70-130	21.9	20	QR-04
Molybdenum	98.9	1.7		95.5	1.4	102	70-130	23.3	20	QR-04
Nickel	128	0.79	, h	95.5	23	110	70-130	12.5	20	
Selenium	107	1.9	Œ	95.5	2.1	110	70-130	21.7	20	QR-04
Silver -	102	0.80	त	95.5	ND	107	60-140	16.2	40	
Thallium -	89.1	1.5	=	95.5	ND	93.3	70-130	21.9	20	QR-04
Vanadium	166	0.73	19	95,5	68	103	70-130	17.1	20	
Zinc	179	1.3	7	95.5	83	101	70-130	21,4	20	QR-04
Batch B6D2116 - EPA 7471A		*	*							V (0)
Blank (B6D2116-BLK1)				Prepared;	04/21/06	Analyzec	i: 04/24/06	"		
Mercury	מא	0.18	mg/kg						······································	
LCS (B6D2116-BS1)		-	_	Prepared;	04/21/06	Analyzeo	i: 04/24/06			
Mercury	0,15	0,18	mg/kg	0.167		89.8	70-130			
Matrix Spike (B6D2116-MS1)	Soi	irce: <b>06041</b> (	9-12	Prepared	04/21/06	Analyzea	1; 04/24/06			
Mercury	0.18	0,16	mg/kg	0.149	0,04	94.0	70-130			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project; APC

Project Number: H0287C

Project Manager: Lee Paprocki

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#### Metals by EPA 6000/7000 Series Methods - Quality Control

#### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D2116 - EPA 7471A						*				
Matrix Spike Dup (B6D2116-MSD1)	Son	ırce: 060410	9-12	Prepared:	04/21/06	Analyzed:	04/24/06			
Mercury	0.20	0.18	mg/kg	0.163	0.04	98.2	70-130	10.5	25	
Batch B6D2416 - EPA 3060A								-	5	
Blank (B6D2416-BLK1)	**			Prepared:	04/24/06	Analyzed:	04/26/06			
Hexavalent Chromium	ND	0.25	nig/kg	+						
LCS (B6D2416-BS1)		I		Prepared:	04/24/06	Analyzed:	04/25/06			
Hexavalent Chromium	2.50	0.25	mg/kg	2.50	-1-	100	80-120			
Matrix Spike (B6D2416-MS1)	Son	urce: 060433	<b>2-</b> 01	Prepared:	04/24/06	Analyzed:	04/25/06		*	
Hexavalent Chromium	2.42	0.23	mg/kg	2.33	0.49	82.8	75-125			
Matrix Spike Dup (B6D2416-MSD1)	So	urce: 060433	2-01	Prepared:	04/24/06	Analyzed:	04/25/06			
Hexavalent Chromium	2.69	0.24	mg/kg	2.42	0,49	90.9	75-125	10.6	20	*



5455 Garden Grove Blvd. Suite 200 Westminster CA, 92683 Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

## Total Volatile Petroleum Hydrocarbons (TVPH) by GC/FID - Quality Control

#### Sierra Analytical Labs, Inc.

			Level	Result	%REC	Limits	RPD	Limit	Notes
×					*				
			Prepared	& Analyze	ed: 04/10/	06			
ND	50	μg/L		**					
22,8		ж	20.0		114	70-125			
	÷		Prepared	& Analyza	ed: 04/10/	06			
626	50	∘ ug/L	600		104	80-120	·	- 1	
Sou	ırce: 960408	9-02	Prepared	& Analyza	ed: 04/10/	06			
634	50	μ <b>g/</b> L	600	ND	106	50-150	···		
Sou	rce: 060408	9-02	Prepared	& Analyza	ed: 04/10/	06	*	ī	
<b>6</b> 45	50	μg/L	600	ND	108	50-150	1.72	30	
	22,8 626 Sou 634	22,8 626 50 Source: 960408 634 50 Source: 060408	22,8 " 626 50 ug/L Source: 0604089-02 634 50 μg/L Source: 0604089-02	ND 50 μg/L  22,8 " 20.0  Prepared 626 50 μg/L 600  Source: 0604089-02 Prepared 634 50 μg/L 600  Source: 0604089-02 Prepared	ND 50 μg/L  22.8 " 20.0  Prepared & Analyze 626 50 μg/L 600  Source: 9604089-02 Prepared & Analyze 634 50 μg/L 600 ND  Source: 0604089-02 Prepared & Analyze	ND 50 μg/L  22,8 " 20.0 114  Prepared & Analyzed: 04/10/ 626 50 μg/L 600 104  Source: 0604089-02 Prepared & Analyzed: 04/10/ 634 50 μg/L 600 ND 106  Source: 0604089-02 Prepared & Analyzed: 04/10/	22.8 " 20.0 I14 70-125  Prepared & Analyzed: 04/10/06  626 50 ug/L 600 104 80-120  Source: 9604089-02 Prepared & Analyzed: 04/10/06  634 50 μg/L 600 ND 106 50-150  Source: 0604089-02 Prepared & Analyzed: 04/10/06	ND 50 μg/L  22,8 " 20,0 114 70-125  Prepared & Analyzed: 04/10/06  626 50 μg/L 600 104 80-120  Source: 0604089-02 Prepared & Analyzed: 04/10/06  634 50 μg/L 600 ND 106 50-150  Source: 0604089-02 Prepared & Analyzed: 04/10/06	ND 50 μg/L  22,8 " 20,0 114 70-125  Prepared & Analyzed: 04/10/06  626 50 μg/L 600 104 80-120  Source: 9604089-02 Prepared & Analyzed: 04/10/06  634 50 μg/L 600 ND 106 50-150  Source: 0604089-02 Prepared & Analyzed: 04/10/06



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

C24 <= HC < C28

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

# Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID - Quality Control

#### Sierra Analytical Labs, Inc.

		Reporting		Spike	Source	5.455	%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch BaD1120 - EPA 3550B Solid Ext			- + +	-						
Biank (B6D1120-BLK1)				Prepared	& Analyza	ed: 04/10/	06			
HC < C8	ND	1.0	mg/kg							
C8 <= HC < C9	ND	1,0	11							
C9 <= HC < C10	ND	1.0	n		r					
C10 <= HC < C11	ND	1.0	II.							
C11 <= HC < C12	ND	1.0	ti							
C12 <= HC < C14	ND	1.0	T							
C14 <= HC < C16	ND	1.0								
C16 <= HC < C18	ND	1.0	. 17							
C18 <= HC < C20	ND	1,0	Ħ						-	
C20 <= HC < C24	ND	1.0	u							
C24 <= HC < C28	ND	1.0	W.							
C28 <= HC < C32	ND	1.0	u							
HC >= C32	ND	1.0								
Total Petroleum Hydrocarbons (C7-C36)	ND	5.0	u							
Surrogate: o-Terphenyl	13.6		. 11	10.0		136	60-175			
LCS (B6D1120-BS1)				Prepared	& Analyz	ed: 04/10/	/06			
Diesel Range Organics (C10-C24)	73,0	5,0	mg/kg	80.0		91,2	80-120			
Matrix Spike (B6D1120-MS1)	Sou	rce: 060411	17-01	Prepared	& Analyz	ed: 04/10	/06			
Diesel Range Organics (C10-C24)	82.6	5.0	mg/kg	80,0	ND	103	50-150			
Matrix Spike Dup (B6D1120-MSD1)	8ou	rce: 060413	17-01	Prenared	& Алајуг	<b>ed: 04</b> /10.	/06			
Diesel Range Organics (C10-C24)	73.4	5.0	mg/kg	0.08	ND	91,8	50-150	11.8	30	
Batch B6D2405 - EPA 3550B Solid Ext				,-			17			
Blank (B6D2405-BLK1)			-	Prepared	& Analyz	ed: 04/18.	/06			
HC < C8	ND	1.0	mg/kg		-					
C8 <= HC < C9	ND	1.0	н							
C9 <= HC < C10	ND	1.0	¥							
C10 <= HC < C11	ND	1.0	*							
C11 <= HC < C12	ND	1.0	18							
C12 <= HC < C14	ND	1.0	17							
C14 <= HC < C16	. ND	1,0	9		*					
C16 <= HC < C18	ND	1.0	**							
C18 <= HC < C20	ND	1.0								
C20 <= HC < C24	ND	1.0	M						0.0	
704 - 777 - 700	100									

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

1.0

ND



5455 Garden Grove Bivd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

## Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID - Quality Control

#### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D2405 - EPA 3550B Solid 1	Cxt	X								3,112
Blank (B6D2405-BLK1)				Prepared	& Analyz	ed: 04/18/	06			
C28 <= HC < C32	ND	1.0	mg/kg							
HC >= C32	ND	1.0	u							
Total Petroleum Hydrocarbons (C7-C36)	ND	5.0	ш							
Surrogate: o-Terphenyl	11.5		#	10.0		115	60-175		* .	
Blank (B6D2405-BLK2)				Prepared:	04/18/06	Analyzed	1: 04/19/06	i		
HC < C8	ND	1.0	mg/kg							
C8 <= HC < C9	, ND	1.0	. 11							
C9 <= HC < C10	ND	1.0	H							
C10 <= HC < C11	ND	1.0	H	0			0			
C11 <= HC < C12	ND	1.0	Þr							
C12 <= HC < C14	ND	1.0	*							
C14 ← HC < C16	ND	1.0	**							
C16 <= HC < C18	ND	1.0	n							
C18 <= HC < C20	ND	1.0	9 0		0.0					
C20 <= HC < C24	ND	1,0	u							
C24 <= HC < C28	ND	1.0	Ħ							
C28 <= HC < C32	ND	1.0	м							
HC >= C32	ND	1.0	*							
Total Petroleum Hydrocarbons (C7-C36)	ND	5.0	•							
Surrogate: o-Terpheny!	14.4		**	10.0		144	60-175			
LCS (B6D2405-B\$1)				Prepared	& Analyz	ed: 04/18/	06			
Diesel Range Organics (C10-C24)	91.3	5.0	mg/kg	100		91.3	80-120			
LCS (BdD2405-BS2)				Prepared	: 04/18/06	Analyze	d: 04/1 <b>9</b> /0 <del>6</del>	5		
Diesel Range Organics (C10-C24)	98.9	5.0	mg/kg	100		98,9	80-120		,	



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Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

## Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID - Quality Control

#### Sierra Analytical Labs, Inc.

Anaiyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D2405 - EPA 3550B Solid Ext									* .	7+1
Matrix Spike (B6D2405-MS1)	Sou	ırce: 0 <b>6</b> 0419	8-01	Prepared	& Analyza	ed: 04/18/	06			
Diesel Range Organies (C10-C24)	84.8	5.0	mg/kg	100	ND	84,8	<b>50-15</b> 0	1		
Matrix Spike (B6D2405-MS2)	Sou	ır <b>ce:</b> 0 <b>6</b> 0419	8-12	Prepared:	04/18/06	Analyzed	1: 04/19/06			
Diesel Range Organics (C10-C24)	98,5	5.0	mg/kg	100	ND	98,5	50-150		·	
Matrix Spike Dup (B6D2405-MSD1)	So	urce: 060419	8-01	Prepared	& Analyz	ed: 04/18/	06			
Diesel Range Organics (C10-C24)	84.0	5.0	mg/kg	100	ND	84.0	50-150	0.948	30	
Matrix Spike Dup (B6D2495-MSD2)	Son	urce: 060419	8-12	Prepared:	04/18/06	Analyzed	1: 04/19/06			
Diesel Range Organics (C10-C24)	94.6	5.0	mg/kg	100	ND	94,6	50-150	4.04	30	



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Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

#### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Sierra Analytical Labs, Inc.

+		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limita	RPD	Limit	Norse
Batch B6D1019 - EPA 5035 P & T					*		-	ķ-		

Blank (B6D1019-BLK1)		0		Prepared & Analyz	ed: 04/07/06			
Benzene	ND	5.0	μg/kg					
Bromobenzene	ND	5.0	Į		4			
Bromochloromethane	ND	5.0	ji.					
Bromodichloromethane	ND	5.0						
Bromoform	ND	5,0				-		
Bromomethane	ND	5.0						
n-Butylbenzene	ND	5.0	*		÷			
sec-Butylbenzene	ND	5.0						
tert-Butylbenzene	ND	5.0	b					
Carbon tetrachloride	ND	5.0	ø					
Chlorobenzene	ND	5.0	11				0.1	-
Chloroethane	ND	5,0						
Chloroform	ND	5.0						
Chloromethane	ND	5.0	•					
2-Chiorotcluene	ND	5.0	*					
4-Chlorotoluene	ND	5.0	R					
Dibromochloromethane	ND	5.0	a		*			
1,2-Dibromo-3-chloropropane	ND	5.0	и -					
1,2-Dibromoethane (EDB)	ND	5.0	ેવ					
Dibromomethane	ND	5.0	11					
1,2-Dichlorobenzene	ND	5.0	11				*	
1,3-Dichlorobenzene	ND	5.0	11		-			
1,4-Dichlorobenzene	ND	5.0	-15					
Dichlorodifluoromethane	ND	5.0	n					
1,1-Dichloroethane	ND	5.0	н .					
1,2-Dichloroethane	ND	5.0	п					
1,1-Dichloroethene	ND	5.0	, II	•				
cis-1,2-Dichloroethene	ND	5.0	fr					
trans-1,2-Dichloroethene	ND	5.0	17					
1,2-Dichloropropane	ND	5.0	77					
1,3-Dichloropropane	ND	5,0	41					
2,2-Dichloropropane	ND	5.0	Ħ					
1,1-Dichloropropene	ND	5.0	w	*				
cis-1,3-Dichloropropene	ND	5.0						
trans-1,3-Dichloropropene	ND	5.0	R					
Ethylbenzene	ND	5.0						
Hexachlorobutadiene	ND	5.0	. 19					



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Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D1019 - EPA 5035 P & T										
Blank (B6D1019-BLK1)				Prepared	& Analyze	ed: 04/07/	06			
Isopropylbenzene	ND	5.0	μg/kg							
p-Isopropyltoluene	ND	5.0	H							
Methylene chloride	ND	5.0	п			•	·	•		
Methyl tert-butyl ether	ND	5.0	**							
Naphthalene	ND	5.0	ŧt.							
n-Propylbenzene	ND	5.0	. "							
Styrene	ND	5.0	**		•					
1,1,1,2-Tetrachloroethane	ND	5.0	11							
1,1,2,2-Tetrachloroethane	ND	5.0	11							
Tetrachloroethene	ND	5.0	11							
Toluene	ND	5.0	10							
1,2,3-Trichlorobenzene	ND	5.0	, <b>17</b>							
1,2,4-Trichlorobenzene	ND	5.0	**							
1,1,1-Trichloroethane	ND	5,0	19							
1,1,2-Trichloroethane	ND	5.0	н				•			
Trichloroethene,	ND	5.0	п				•			
Trichlorofluoromethane	ND	5.0	- 8							*
1,2,3-Trichloropropane	ND	5.0	ŧ		•	-			•	
1,2,4-Trimethylbenzene	ND	5.0	ŧI						:	
1,3,5-Trimethylbenzene	ND	5.0	я.						•	
Vinyl chloride	ND	5.0	W.							
m,p-Xylene	ND	5.0	Ħ			*				
o-Xylene	ND	5.0	11							
Surrogate: Dibromofluoromethane	45.1	<del></del>	#	50.0		90.2	80-120			
Surrogate: Toluene-d8	45,2		<b>"</b> .	50.0		90.4	81-117			
Surrogate: 4-Bromofluorobenzene	42.9		n	50.0		85.8	74-121		**	
LCS (B6D1019-BS1)				Prepared	& Analyz	ed: 04/07	/06		••	
Benzene	44.4	5.0	μg/kg	50.0		88.8	80-120		,	
Chlorobenzene	56.2	5.0	н	50.0		112	80-120			*
1,1-Dichloroethene	40.6	5,0	11	50.0		81.2	80-120			
Toluene	49.0	5.0	u	50.0		98.0	80-120			·, ·
Trichloroethene	50.3	5.0	. 4	50.0		101	80-120			



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

#### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%RBC	%REC Limits	RPD	RPD Limit	Notes
-	-	N 12						111		
Batch B6D1019 - EPA 5035 P & T								w <del>-</del> · · · · · · · · · · · · · · · · · · ·		
Matrix Spike (B6D1019-MS1)		rce: 060410			& Analyz					
Benzene	44.4	5,0	hg/kg	50.0	ND	88.8	37-151			
Chlorobenzene	59.8	5.0	n	50.0	ND	120	37-160			
1,1-Dichloroethene	39.2	5.0	u	50.0	ND	78.4	50-150			1 -
Toluene	50.6	5.0	r	50.0	ND	101	47-150			
Trichloroethene	51,0	5.0	ų	50.0	ND	102	71-157			
Matrix Spike Dup (B6D1019-MSD1)	Sou	rce: 060410	9-07	Prepared	& Analyz	ed: 04/07/	06			
Benzene	41,7	5,0	µg/kg	50.0	ND	83,4	37-151	6.27	- 30	-
Chlorobenzene	56.1	5.0	11	50.0	ND	112	37-160	6,38	30	
1,1-Dichloroethene	36.7	5.0	11	50.0	ND	73.4	50-150	6.59	30	
Toluene	47.1	5,0	11	50.0	ND	94.2	47-150	7.16	30	
Trichloroethene	48.1	5.0		50.0	ND	96.2	71-157	5.85	30	
Batch B6D1044 - EPA 5030B P & T				7						
Blank (B6D1044-BLK1)				Prepared	& Analyz	ed; 04/10/	06			
Benzene	ND	1,0	μg/L							
Bromobenzene	ND	1.0	H							
Bromochloromethane	ND	1.0								
Bromodichloromethane	ND	1,0	н							. 6.
Dromoform	ND	1.0	77							
Bromomethane	ND	5.0	*			-				
n-Butylbenzene	ND	1.0	#							
sec-Butylbenzene	ND	1.0	Ħ							
tert-Butylbenzene	ND	1.0	11						+ 1	
Carbon tetrachloride	ND	1.0	n							
Chlorobenzene	ND	1,0	n							
Chloroethane	ND	5.0	a a							
Chloroform	ND	1.0	н							
Chloromethane	ND	5.0	ш							
2-Chlorotoluene	ND	1.0	D.							
4-Chlorotoiuene	ND	1.0	e e							
Dibromochloromethane	ND	1.0	h							
1,2-Dibromo-3-chloropropane	. ND	5,0	π		(0)					
1,2-Dibromoethaue (EDB)	ND	1.0	n							
Dibromomethane	ND -	1.0	Ħ							
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0	#							



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Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

#### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Sierra Analytical Labs, Inc.

			Reporting		Spike	Source		%REC		RPD	
Analyte		Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
	-										

Batch	BAD1	044	TP A	5030R	D & '	г
Marrie	- MAILE II	1444		711771117	- 0	

Blank (B6D1044-BLK1)				Prepared & Analyzed: 04/10/06	
1,4-Dichlorobenzene	ND	1.0	μg/L		*
Dichlorodifluoromethane	. ND	5.0	11		287
1,1-Dichlorocthane	ND	1.0	*		
1,2-Dichloroethane	ND	1.0	n	*	
1,1-Dichloroethene	ND	1.0	H		
cis-1,2-Dichloroethene	ND ·	1.0	T.		
trans-1,2-Dichloroethene	ND	1.0		*	<u> </u>
1,2-Dichloropropane	ND	1.0	, N		*
1,3-Dichloropropane	ND	1.0	n	*	
2,2-Dichloropropane	N,D	1.0	п		
1,1-Dichloropropene	ND	1.0	h		
cis-1,3-Dichloropropene	ND	1.0	IJ	•	
trans-1,3-Dichloropropene	ND	1,0	10		
Ethylbenzene	ND	1.0	И		
Hexachlorobutadiene	ND	1.0	F		* * ',
Isopropylbenzene	ND	1.0	Ħ		
p-Isopropyltaluene	ND	1.0	**		
Methylene chloride	ND	1.0	. 4		
Methyl tert-butyl ether	ND	1.0	Ħ		* *
Naphthalene	ND	1.0	*		
n-Propylbenzene	ND	1.0	•	•	*
Styrene	ND	1.0	11		7
1,1,1,2-Tetrachloroethane	ND	1.0	ч		
1,1,2,2-Tetrachloroethane	ND	1,0	11		
Tetrachloroethene	ND	1.0	ąı.		
Toluene	ND	1.0	71		
1,2,3-Trichlorobenzene	ND	1.0	"	•	
1,2,4-Trichlorobenzene	ND	1.0	II .		*
1,1,1-Trichloroethane	ND	1.0	"		
1,1,2-Trichloroethane	ND	1.0	u		
Trichloroethene	ND	1.0	н		
Trichlorofluoromethane	ND	5,0	h		_
1,2,3-Trichloropropane	ND	5.0	н		
1,2,4-Trimethylbenzene	· ND	1.0	Ħ		•
1,3,5-Trimethylbenzene	ND	1,0	D		
Vinyl chloride	ND	5.0	н		•
m,p-Xylene	ND	1.0	н		



5455 Garden Grove Blvd, Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

#### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Sierra Analytical Labs, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch B6D1044 - EPA 5030B P & T		-				- ×	×		-1-	
Blank (B6D1044-BLK1)	*			Prepared	& Analyz	±d: 04/10/	06 '		-1-	
o-Xyicae	ND	1.0	μ <b>g</b> /L	··································					-	* *
Surrogate: Dibromofluoromathane	51,6			50.0		103	86-118			
Surrogate: Toluene-d8	50.2		34	50.0		100	88-110			
Surragate: 4-Bramofluorobenzene	49.9		"	50.0	÷	99.8	86-115			
LCS (B6D1044-BS1)	*			Prepared	& Analyz	ed: 04/10/	06			
Benzene	53.1	1.0	μg/L	50.0		106	80-120		*	
Chlorobenzene	56.0	1.0	u	50.0		112	80-120			
1,1-Dichloroethene	48,1	1.0	Ħ	50.0		96.2	80-120			
Toluene	53.2	1.0	4	50.0		106	80-120		-:	
Trichloroethene	52.0	1.0	**	50.0		104	80-120			
Matrix Splke (B6D1044-MS1)	Sour	ce: 060412	3-19	Prepared	& Analyz	ed: <b>04</b> /10/	06			
Benzene	48,6	1.0	μg/L	50,D	ND .	97.2	37-151			
Chlorobenzene	48.4	1.0	"	50.0	ND	96.8	37-160			
1,1-Dichloroethene	43.1	1.0	"	50.0	ND	86.2	50-150			
Toluene	47.8	1.0	"	50.0	ND	95.6	47-150			
Trichloroethene	43.8	1.0	11	50.0	ND	87.6	71-157			
Matrix Spike Dup (B6D1044-MSD1)	Sour	ce: 960412	3-19	Prepared	& Analyz	ed: 04/10/	06			
Benzeus	50.0	1.0	μ <b>g</b> /L	50.0	ND	100	37-151	2.84	30	
Chlorobenzene	49.3	1.0	IP	50.0	ND	98.6	37-160	1.84	30	
1,1-Dichloroethene	44.1	1.0	U.	50.0	ND	88.2	50-150	2.29	30	
Toluene	48.7	1.0	IJ	50.0	ND	97.4	47-150	1.87	30	
Trichloroethene	45.6	1.0	ú	50.0	ND	91.2	71-157	4.03	30	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 09:56

#### Notes and Definitions

QM-07	The spike recovery was outsid	le acceptance limits for the MS and/or MSD.	The batch was accepted based on acceptable LCS
	recovery.		

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC
	batch were accepted based on percent recoveries and completeness of QC data.

QR-04	The RPD result exceeded the QC control limits; however, either the MS or MSD percent recovery was acceptable. Sample results		
	The RPD result exceeded the QC control limits; however, either the MS or MSD percent recovery was acceptable. Sample to the QC batch were accepted based on percent recovery and completeness of QC data.		

S-03	Surrogate diluted out.
5-05	puriozate minior our

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

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SIERRA ANALYTICAL

TEL: 949 • 348 • 9389

FAX: 949 • 348 • 9115

26052 Merit Circle • Suite 105 • Laguna Hills, CA • 92653

#### CHAIN OF CUSTODY RECORD

Date: 9, 5, 6 Page of 3

Lub Project ID: 0604/09

**Analyses Requested** Client: Lex Sanger & Wolley Passons Komex & Client Project ID: Client Address: SYSS Garallyn Grove Blud APC - H0287C Westminster CA 92683 ☐ Immediate ☐ 24 Hour Turn Around Time Requested: 48 Hour 72 Hour Client Tel. No: 714-379-1157 80908 4 Day 5 Day Client Fax No.: 7/4-379 - 1160 AM metals Normal ☐ Mobile Client Proj. Mgr.: Lee Paplacki Container No. of Client Sample ID. Date/Time Type Containers Matrix Preservatives Comments 4/5/06 W VOA FB 4506 HCC MW41-4506-1-5 MIA Sizeve MW1-4506-2-10 X NIA Sleeve MW1-4506-3-15 \* NIA Sleeve MW1-4506-4-25X NIA Slepve MW1-4506-5-35\* Sleeve NIA MW1-4506-1-5 encore NIA MW1-4506-2-10 NIA Phone MWI - 4506-3-15 NIA encore MW1-4506-4-25 NIA encore appear by Total Number of Containers Sample Disposal: Submitted to Laboratory daroch Printed Name: (Carrier/Waybill No.) Return to Client Mapusti pat 504 The delivery of samples and the signature on this chain of custody form constitutes Relinquished By: ✓ Lab Disposal\* Received By authorization to perform the analyses specified above under SIERRA's Terms and Time: 630 Conditions, unless otherwise agreed upon in writing between SIERRA and CLIENT. \* - Samples determined to be hazardous by SIERRA will be returned to CLJENT. Company Archive Relinquished By: Other Received By: Date: Total Number of Containers Received by Laboratory Company: Time: Company: EISE EINFYL, Sample Receipt Conditions. Relinquished By: Received By: Date: Special Instructions: TLC if 10 times the limit run RCRA- motals if 20 times the TCLP DISTRIBUTION: White - To Accompany Samples, Yellow - Laboratory Copy, Pink - Field Personnel Copy hust and a what his here x'do ever - was

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#### CHAIN OF CUSTODY RECORD



SIERRAANALYTICAL

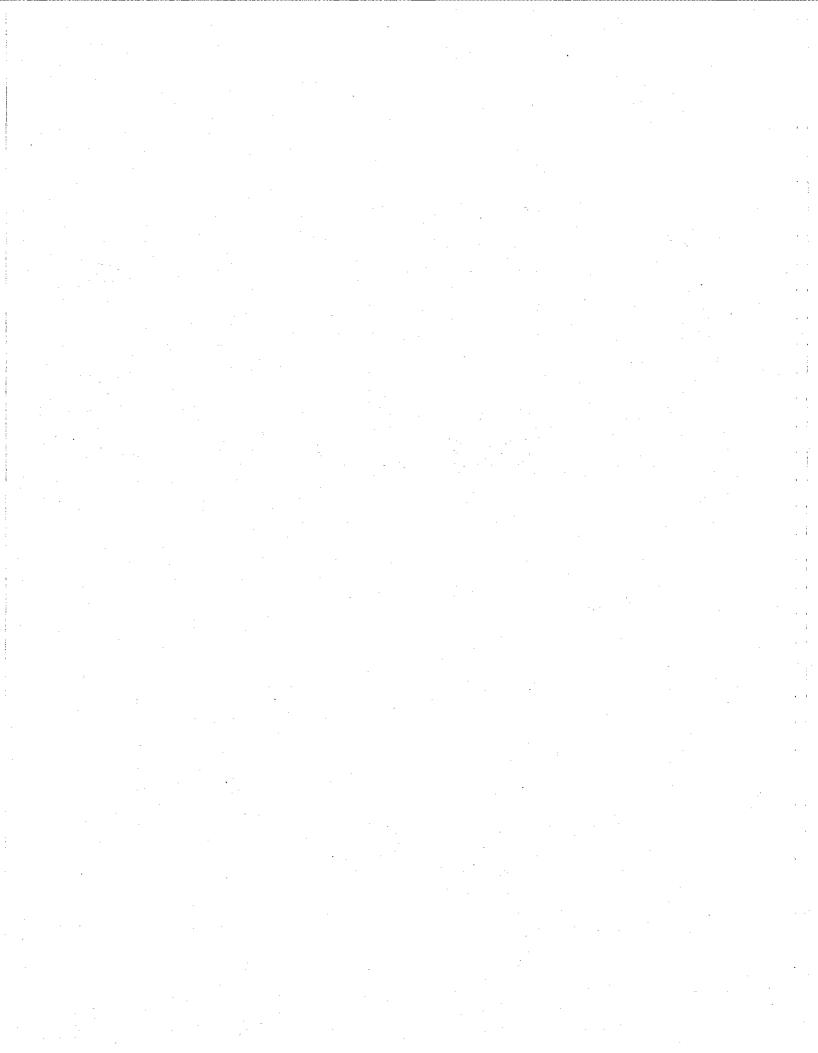
TEL: 949•348•9389 FAX: 949-348-9115

26052 Merit Circles Spite 105sLaguna Hills, CA-92653

Date: 4,5,06 Page 2 of 3

Lah Project No.:

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Client: Worley Parsons Komex Client Address: 545 Garden Gros Westminster, CA 9268		СБ	ent Project ID	:					Analysis !	Request	ted			
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CHAIN OF CUSTODY RECORD

SIERRAANALYTICAL

TEL: 949-348-9389 FAX: 949-348-9115

26052 Merit Circle Suite 105 Laguna Hills, CA 92653

Date: 4/5/06 Page 3 of 3

Lub Project No.: Client Address: 5455 Garden Grove Blud **Analysis Requested** Client Project ID: 60(08+7AS Geotracker EDD Info: APC-HOB87C wastmisser, (A, 92683 82608 24 Hour Immediate Turn Around Client LOGCODE Time Requested 48 Hour 72 Hour Chent Tel. No.: 714-379 -(157 4 Day 5 Day Client Fax. No.: 714-379 - 1160 Normal Mobile Site Global ID Client Proj. Mgr.: Lee Paprocki No. of Container Field Point Names/ Client Sample ID. Preservative Date Time Matrix Туре Containers Comments MW2-4506-5-35 NIA 12:56 encorp VOA HCL B4500 W HCL VOA Sample Disposal: Total Number of Containers Submitted to Shipped Via: Laboratory Return to Client (Carrier/Waybill No.) The delivery of samples and the signature on this chain of custody form constitutes ☐ Lab Disposal\* authorization to perform the analysis specified above under SIERRA's Terms and 1638 Conditions, unless otherwise agreed upon in writing between SIERRA and CLIENT. \*- Samples determined to be hazardous by SIERRA will be returned to CLIENT. Archive \_\_\_\_\_ mos. Total Number of Containers Received Refinanished By: Received By: Date; Other \_\_\_\_ by Laboratory Соправу: Time: Company: COR ABOR SYOR USC BALL Sample Recept Confidences

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#### CHAIN OF CUSTODY RECORD

#### SIERRAANALYTICAL

TEL: 949-348-9389 FAX: 949-348-9115

26052 Merit Circle Suite 105-Laguna Hills, CA-92653

Date: 4/5/06 Page 3 of 3

Lab Project No.: \_\_\_ Client: Worley HUSANS Kamex
Client Address: 5455 Garden Grove Blue Analysis Requested Client Project ID: 60108+74 Geotracker EDD Info: APC-HOD87C weetminister (A 92683 24 Hour Client LOGCODE metal 72 Hour Time Requested 48 Hour Client Tel. No.: 714-379 -115 -carbin 4 Day 5 Day Client Fax. No.: 7[4-379-1(60) X Normal Mobile Site Global ID Client Proj. Mgr.: Lee Paprocki Container No. of Field Point Names/ Client Sample ID. Matrix Preservative Date Time Containers Comments Type MW2-4506-5-35 12:56 PACENO VOA HCC 13450C VOX Sample Disposal: Total Number of Containers Submitted to Shipped Via: Laboratory Deturn to Client Carrier/Waybill No. The delivery of samples and the signature on this chain of custody form constitutes ☑ Lab Disposal\* authorization to perform the analysis specified above under SIERRA's Terms and Conditions, unless otherwise agreed upon in writing between SIERRA and CLIENT 1636 \* - Samples determined to be hazardous by SIERRA will be returned to CLIENT. Company: Archive \_\_\_\_ mos. Total Number of Containers Received Relinquished By: Received By: Dates Date Other \_ by Laboratory Сопарану: Time: Company: ROWPERORATORY USE ONLY SAMPLE Receipt Committees: Date Received By: Company: Time: Company: Special Instructions:

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25 April 2006

Lee Paprocki Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200 Westminster, CA 92683

RE:APC

Work Order No.: 0604255



Attached are the results of the analyses for samples received by the laboratory on 04/12/06 18:00.

The samples were received by Sierra Analytical Labs, Inc. with a chain of custody record attached or completed at the submittal of the samples.

The analyses were performed according to the prescribed method as outlined by EPA, Standard Methods, and A.S.T.M.

The remaining portions of the samples will be disposed of within 30 days from the date of this report. If you require any additional retaining time, please advise us.

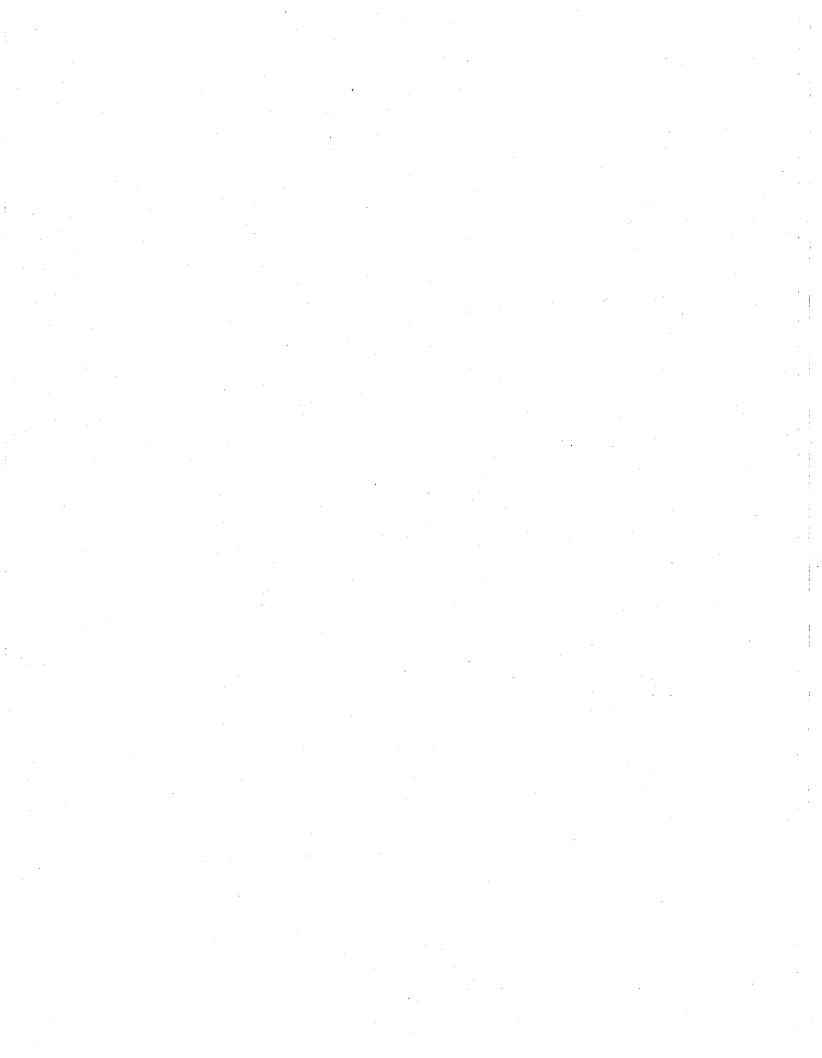
Sincerely,

Richard K. Forsyth

lebard & Dunte

Laboratory Director

Sierra Analytical Labs, Inc. is certified by the California Department of Health Services (DOHS), Environmental Laboratory Accredidation Program (ELAP) No. 2320.





5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-41206	0604255-01	Liquid	04/12/06 00:00	04/12/06 18:00
MW-1	0604255-02	Liquid	04/12/06 10:15	04/12/06 18:00
MW-2	0604255-03	Liquid	04/12/06 11:15	04/12/06 18:00
MW-3	0604255-04	Liquid	04/12/06 12:15	04/12/06 18:00
MW-4	0604255-05	Liquid	04/12/06 13:10	04/12/06 18:00
FB-41206	0604255-06	Liquid	04/12/06 13:20	04/12/06 18:00
EB-41206	0604255-07	Liquid	04/12/06 13:25	04/12/06 18:00

#### CASE NARRATIVE

SAMPLE RECEIPT:

Samples were received intact, at 4 °C, and accompanied by chain of custody documentation.

PRESERVATION:

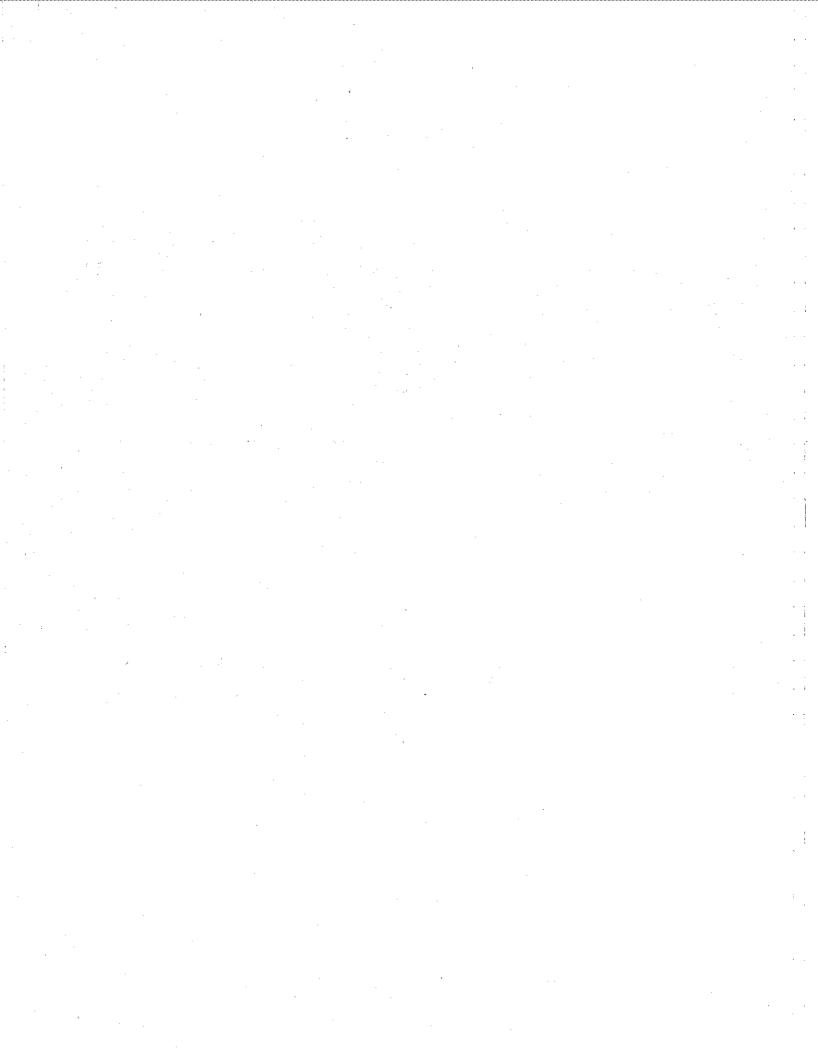
Samples requiring preservation were verified prior to sample preparation and analysis.

HOLDING TIMES:

All holding times were met, unless otherwise noted in the report with data qualifiers.

QA/QC CRITERIA:

All quality objective criteria were met, except as noted in the report with data qualifiers.





5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

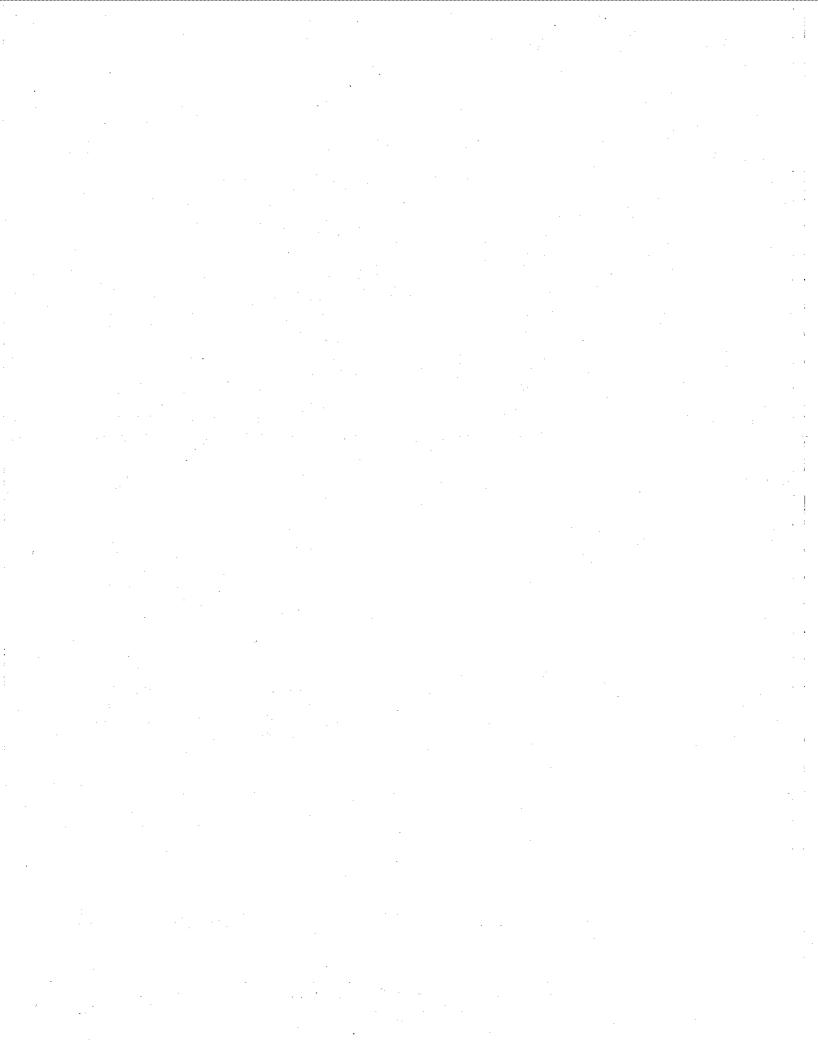
## Metals by EPA 6000/7000 Series Methods

### Sierra Analytical Labs, Inc.

Reporting

Anaiyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW-1 (0604255-02) Liquid	Sampled: 04/12/06 10:15	Received: (	04/12/06	8:00			<del></del>		***
Silver	ND	0.0030	mg/L	1	B6D1820	04/18/06	04/19/06	EPA 6010B	
Arsenio	ND	0.025	π		₩.	И	*	Ħ	
Barium	0.65	0.019	11	91	n	11	41	U	
Beryllium	ND	0.0090	H	Ħ	*	N	n	w	
Cadmium	ND	0.0040	e	77	σ	11	11	19	
Cobait	0.032	0.0060	7	1	π	tł .	ч	π	
Chromium	0.059	0.0060	п		ч	11	11*	ti	
Hexavalent Chromium	0.0047	0.0020	. 11	9	B6D2406	04/12/06	04/12/06	EPA 7199	
Copper	0.092	0,012	*	n	B6D1820	04/18/06	04/19/06	EPA 6010B	
Mercury	ND	0.00073	a	Ħ	B6D1920	04/19/06	04/19/06	EPA 7470A	
Molybdenum	ND	0.028		11	B6D1820	04/18/06	04/19/06	BPA 6010B	
Nickel	0.044	0.010	ш	11	a	U	P	41	
Lead	0.040	0.019	Ħ	11	Ħ	et			
Antimony	ND	0.023	*1	n	11	#	#	N	
Selenium	ND	0.026	u	11	π	ii ii	Ħ	h	
Thallium	ND	0.011	11	ri	11	দ	Ħ	11	
Venedium	0.16	0.012	N	0	)r	, 11	п	N	
Zinc	0.15	0.024	FF .	#	11	7	. 1	II	
MW-2 (0604255-03) Liquid	Sampled: 04/12/06 11:15	Received:	04/12/06	18:00					
Silver	ND	0.0030	mg/L	1	B6D1820	04/18/06	04/19/06	EPA 6010B	
Arsenic	<b>NTD</b>								
The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon	ND	0.025	h	н	1)	"	17		
Barium	ND 1.1	0.025 0.019	li च	н *	1)	11	04/19/06	# II	
Barium Beryllium								ह ॥ ज	
	1.1	0.019	ল	. ₩	ţı.	11	04/19/06		
Beryllium	1.1 ND	0.019 0.0090	न स	11	, n	11 39	04/19/06 H	<b>n</b>	
Beryllium Cadmium	1.1 ND ND	0.019 0.0090 0.0040	ग स 17	11	;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;	11 39 11	04/19/06 " 04/19/06	ज त	
Beryllium Cadmium Cobalt	1.1 ND ND 0.063	0.019 0.0090 0.0040 0.0060	ग स 11	. †1 11	;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;	11 11 11	04/19/06 H 04/19/06	ज त	
Beryllium Cadmium Cobalt Chromium	1.1 ND ND 0.063 0.12	0.019 0.0090 0.0040 0.0060 0.0060	ग H T7 W	. 17 17 18 18	, 13 4 11	11 1) 11 11	04/19/06 04/19/06	স ব ফ ম	
Beryllium Cadmium Cobalt Chromium Hexavalent Chromium	1.1 ND ND 0.063 0.12 0.0024	0.019 0.0090 0.0040 0.0060 0.0060 0.0020	ग स ग स स	п п п п	, n , n , n , n , n , n	11 11 11 11 11 11	04/19/06 04/19/06 " 04/12/06	# # EPA 7199	
Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury	1.1 ND ND 0.063 0.12 0.0024 0.18	0.019 0.0090 0.0040 0.0060 0.0060 0.0020 0.012	77 14 17 18 11	* * * * * * * * * * * * * * * * * * *	B6D2406 B6D1820	04/12/06 04/18/06	04/19/06 04/19/06 " 04/12/06 04/19/06	EPA 7199 EPA 6010B	
Beryllium Cadmium Cobalt Chromium Hexayalent Chromium Copper	1.1 ND ND 0.063 0.12 0.0024 0.18 ND	0.019 0.0090 0.0040 0.0060 0.0060 0.0020 0.012 0.00073	77 14 17 10 10 11 11 11	W 11 11 11 11 11 11 11 11 11 11 11 11 11	B6D2406 B6D1820 B6D1920	04/12/06 04/18/06 04/19/06	04/19/06 04/19/06 04/12/06 04/19/06	EPA 7199 EPA 6010B EPA 7470A	
Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury Molybdenum	1.1 ND ND 0.063 0.12 0.0024 0.18 ND	0.019 0.0090 0.0040 0.0060 0.0060 0.0020 0.012 0.00073 0.028	ग स ग च च ।। भ	W 11	B6D2406 B6D1820 B6D1920 B6D1820	04/12/06 04/18/06 04/19/06 04/18/06	04/19/06 04/19/06 04/12/06 04/19/06 04/19/06	EPA 7199 EPA 6010B EPA 7470A EPA 6010B	
Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury Molybdenum Nickel Lead	1.1 ND ND 0.063 0.12 0.0024 0.18 ND ND 0.091	0.019 0.0090 0.0040 0.0060 0.0020 0.012 0.00073 0.028 0.010 0.019	ग स ग स स ।। भ	W 11 11 11 11 11 11 11 11 11 11 11 11 11	B6D2406 B6D1820 B6D1920 B6D1820	04/12/06 04/18/06 04/19/06 04/18/06	04/19/06 04/19/06 04/12/06 04/19/06 04/19/06	EPA 7199 EPA 6010B EPA 7470A EPA 6010B	
Berylliam Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury Molybdenum Nickel	1.1 ND ND 0.063 0.12 0.0024 0.18 ND ND 0.091 0.048	0.019 0.0090 0.0040 0.0060 0.0020 0.012 0.00073 0.028 0.010	ग स ग च च च म भ म भ	W 11 11 11 11 11 11 11 11 11 11 11 11 11	B6D2406 B6D1820 B6D1920 B6D1820	04/12/06 04/18/06 04/19/06 04/18/06	04/19/06 04/19/06 04/12/06 04/19/06 04/19/06 04/19/06	EPA 7199 EPA 6010B EPA 7470A EPA 6010B	
Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury Molybdenum Nickel Lead Antimony	1.1 ND ND 0.063 0.12 0.0024 0.18 ND ND 0.091 0.048 ND	0.019 0.0090 0.0040 0.0060 0.0020 0.012 0.00073 0.028 0.010 0.019 0.023 0.026	ग स ग स स स स स स स	W 97 11 11 11 11 11 11 11 11 11 11 11 11 11	B6D2406 B6D1820 B6D1920 B6D1820	04/12/06 04/18/06 04/18/06 04/18/06	04/19/06 04/19/06 04/12/06 04/19/06 04/19/06 04/19/06	EPA 7199 EPA 6010B EPA 6010B	
Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury Molybdenum Nickel Lead Antimony Selenium	1.1 ND ND 0.063 0.12 0.0024 0.18 ND ND 0.091 0.048	0.019 0.0090 0.0040 0.0060 0.0020 0.012 0.00073 0.028 0.010 0.019 0.023	ग । । । । । । । । । । । ।	17 11 11 12 11 11 11 11 11 11 11 11 11 11	B6D2406 B6D1820 B6D1820	04/12/06 04/18/06 04/18/06 04/18/06	04/19/06 04/19/06 04/12/06 04/19/06 04/19/06 04/19/06	EPA 7199 EPA 6010B EPA 7470A EPA 6010B	

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5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

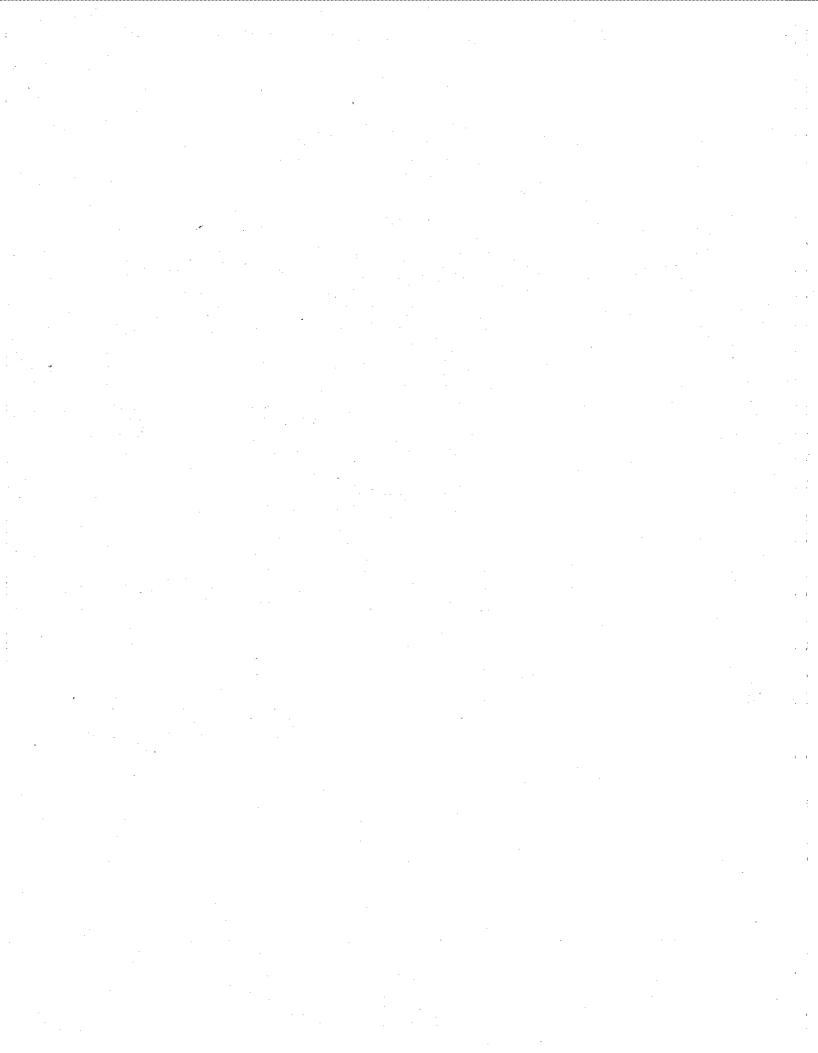
Reported: 04/25/06 09:38

## Metals by EPA 6000/7000 Series Methods

### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (0604255-04) Liquid	Sampled: 04/12/06 12:15	Received:	04/12/06	18:00					
Silver	ND	0.0030	mg/L	1	B6D1820	04/18/06	04/19/06	EPA 6010B	
Arsenic	0.14	0.025	0	н	R	11	04/19/06	77	
Barium	3.2	0.019	н	0	11	II	04/19/06	u	
Beryllium	ND	0.0090	10	W	er er	н	II	11	
Cadmium	ND	0.0040	n	u	71	II.	04/19/06	*	
Cobalt	0.11	0.0060	11	w	II .	Ħ	11	п	
Chromium	0.13	0.0060	11	н	•	11	11	7	
Hexavalent Chromium	ND	0.0020	Ot	n	B6D2406	04/12/06	04/13/06	EPA 7199	1+1
Copper	0.31	0.012	IP.	#	B6D1820	04/18/06	04/19/06	EPA 6010B	
Mercury	0.00079	0.00073	н -	u,	B6D1920	04/19/06	04/19/06	EPA 7470A	
Molybdenum	ND	0.028	u	*	B6D1820	04/18/06	04/19/06	EPA 6010B	
Nickel	0.13	0.010	PI		. 11	1)	U	11	
Lead	0.081	0.019	н	н	. u	#	"	ú	
Antimony	ND	0.023	*	9	11	n	u	H	
Selenium	ND	0.026	-	u	u	*	II.	"	
Thallium	ND	0.011	н	"	n-	T	*	R	
Vanadium	0.40	0.012	*	n	11	10	04/19/06	11	
Zinc	0.47	0.024	*	0	н		*		
MW-4 (0604255-05) Liquid	Sampled: 04/12/06 13:10	Received:	04/12/06	18:00					
Silver	ND	0.0030	mg/L	I	B6D1820	04/18/06	04/19/06	EPA 6010B	
Arsenic	0.11	0.025	"	n	.,	li .	ħ	ıı	
Barium	1.6	0.019	11	н	₩.	p	h	**	
Beryllium	ND	0.0090	н	и		11	7	şê.	
Cadmium	ND	0.0040	17	π	्र । म	ħ	* 2	17	
Cobalt	0.095	0.0060	10	'n	π	**	4	- इर्ग	*
Chromium	0.19	0.0060	н		ir	H		н	
Hexavalent Chromium	ND	0.0020	IF.	п	B6D2406	04/12/06	04/13/06	EPA 7199	
Copper	0.34	0.012	п		B6D1820	04/18/06	04/19/06	EPA 6010B	
Mercury	ND	0.00073	D	*	B6D1920	04/19/06	04/19/06	EPA 7470A	
Molybdenum	ND	0.028	Ħ	u	B6D1820	04/18/06	04/19/06	EPA 6010B	
Nickel	0.15	0.010	, n	*	n	#	N	P	
Lead	0,095	0.019	н	Ħ	w	н	н	el el	
Antimony	0.024	0.023	*	п	u	π		* (1	
Selenium	ND	0.026	,	#	li .	-11	н	ų.	
Thallium	ND	0.011	H	э и	11	н	11	11	
Vanadium	0.36	0.012	*		ч	*	h	II.	
Zinc	0.45	0.024	h	9	19	H	п	11	
want a	ひゃする	0.024							

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Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

# Metals by EPA 6000/7000 Series Methods

## Sierra Analytical Labs, Inc.

Analyte		Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
FB-41206 (0604255-06) Liquid	Sampled:	04/12/06 13:20	Receive	d: 04/12/0	6 18:00			-		
Silver		ND	0.0030	mg/L	1,	B6D1820	04/18/06	04/19/06	EPA 6010B	·
Arsenic		ND	0.025	Tr.	4.5	н	Ħ	04/19/06	11	
Barium		ND .	0.019	11	н	IP .	11	04/19/06	11	
Beryllium		ND	0.0090	ú	#	e e	n			
Cadmium		ND	0.0040	15	17	11	#	04/19/06	*11	
Cobalt		ND	0.0060	"	h "	Ir	h	II.	11	
Chromium		ND	0.0060	ıı	7	u	н	*	rr .	
Hexavalent Chromium		ND	0.0020	w	P	B6D2406	04/12/06	04/12/06	EPA 7199	
Copper		ND	0.012	**	n	B6D1820	04/18/06	04/19/06	EPA 6010B	
Mercury		ND	0.00073	п	7	B6D1920	04/19/06	04/19/06	EPA 7470A	
Molybdenum		ND	0.028	w	ŧ	B6D1820	04/18/06	04/19/06	EPA 6010B	
Nickel		ND	0.010	*			U	11	u	
Lead		ND	0.019	h		U	1)	11	7	
Antimony		ND	0.023		ń	78	11	IJ	n	
Selenium		ND	0.026	11		п	H	W	H <sub>0</sub>	
Thallium		ND	0.011	e .	N	11	11	17	*	
Vanadium		ND	0,012	'n	4	M	nt-	04/19/06	u	
Zinc		ND	0.024	P	11	Ħ	ir	04/19/06	ч	
EB-41206 (0604255-07) Liquid	Sampled:	04/12/06 13:25	Receive	d: 04/12/	06 18:00					
Silver		ND	0,0030	mg/L	1	B6D1820	04/18/06	04/19/06	EPA 6010B	
Arsenic		ND	0.025	"	įt.	11	н	04/19/06	#1	•
Barium		ND	0.019	н	×	II	•	04/19/06	31	
Beryllium		ND	0.0090	w	*	4	11	п	17	
Cadmium		ND	0.0040	Ħ	Ħ		u	04/19/06	11	
							*	11	h	
Cobalt		ND	0.0060	Pt .	×	H				
Cobalt Chromium		ND ND	0.0060	11	и о	n n	11	n	v	
Chromium		ND	0.0060			B6D2406		04/13/06	" EPA 7199	
Chromium Hexavalent Chromium							11			
Chromium Hexavalent Chromium Copper		ND ND ND	0.0060 0.0020 0.012	1)	0	B6D2406	04/12/06	04/13/06	EPA 7199	
Chromium Hexavalent Chromium Copper Mercury		ND ND	0.0060 0.0020	9 d , #	n (1	B6D2406 B6D1820	" 04/12/06 04/18/06	04/13/06 04/19/06	EPA 7199 EPA 6010B	
Chromium Hexavalent Chromium Copper		ND ND ND ND ND	0.0060 0.0020 0.012 0.00073 0.028	1) tl , #!	0 (1 17	B6D2406 B6D1820 B6D1920	" 04/12/06 04/18/06 04/19/06	04/13/06 04/19/06 04/19/06	EPA 7199 EPA 6010B EPA 7470A	
Chromium Hexavalent Chromium Copper Mercury Molybdenum		ND ND ND ND	0.0060 0.0020 0.012 0.00073 0.028 0.010	9 d , R 9	0 11 ** 11	B6D2406 B6D1820 B6D1920 B6D1820	04/12/06 04/18/06 04/19/06 04/18/06	04/13/06 04/19/06 04/19/06 04/19/06	EPA 7199 EPA 6010B EPA 7470A EPA 6010B	
Chromium Hexavalent Chromium Copper Mercury Molybdenum Nickel Lead		25 25 25 25 25 25 25 25 25 25 25 25 25 2	0.0060 0.0020 0.012 0.00073 0.028 0.010 0.019	9 d , 49 u	0 (1 ** ti	B6D2406 B6D1820 B6D1920 B6D1820	04/12/06 04/18/06 04/19/06 04/18/06	04/13/06 04/19/06 04/19/06 04/19/06	EPA 7199 EPA 6010B EPA 7470A EPA 6010B	
Chromium Hexavalent Chromium Copper Mercury Molybdenum Nickel		55 55 55 55 55 55 55 55 55 55 55 55 55	0.0060 0.0020 0.012 0.00073 0.028 0.010 0.019 0.023	9 d , #	0 (1 ** ti 11 **	B6D2406 B6D1820 B6D1920 B6D1820	04/12/06 04/18/06 04/19/06 04/18/06	04/13/06 04/19/06 04/19/06 04/19/06	EPA 7199 EPA 6010B EPA 7470A EPA 6010B	
Chromium Hexavalent Chromium Copper Mercury Molybdenum Nickel Lead Antimony Selenium		5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	0.0060 0.0020 0.012 0.00073 0.028 0.010 0.019 0.023 0.026	9 d , 11 W II N	(1) (1) (2) (3) (4) (4) (5) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	B6D2406 B6D1820 B6D1920 B6D1820	04/12/06 04/18/06 04/19/06 04/18/06	04/13/06 04/19/06 04/19/06 04/19/06	EPA 7199 EPA 6010B EPA 7470A EPA 6010B	
Chromium Hexavalent Chromium Copper Mercury Molybdenum Nickel Lead Antimony		55 55 55 55 55 55 55 55 55 55 55 55 55	0.0060 0.0020 0.012 0.00073 0.028 0.010 0.019 0.023	9 d d d d d d d d d d d d d d d d d d d	0 0 0 %	B6D2406 B6D1820 B6D1920 B6D1820	04/12/06 04/18/06 04/19/06 04/18/06 "	04/13/06 04/19/06 04/19/06 04/19/06	EPA 7199 EPA 6010B EPA 7470A EPA 6010B	

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5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

## Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (0604255-02) Liquid	Sampled: 04/12/06 10:15	Received:	04/12/06	18:00	-				
HC < C8	ND	0.10	mg/L	10	B6D2420	04/24/06	04/24/06	EPA 8015B	
C8 <= HC < C9	ND	0.10	14	÷ 0	u	Ħ	*	1)	
C9 <= HC < C10	ND	0.10	9	19	n	N	π	11	
C10 <= HC < C11	0.33	0.10	11	11	ч	u	H	11	
C11 <= HC < C12	0.66	0.10	11	11	a	<b>#</b>	*	11	
C12 <= HC < C14	5.1	0.10	и	II.	11	. 44	u *	н	
C14 <= HC < C16	6.7	0.10	11	ч	*11	п	71	n	
C16 <= HC < C18	6.8	0.10	'n	ņ	20	#	u	H	
C18 <= HC < C20	4.1	0.10	n ·	ıl	11	н	я	11	
C20 <= HC < C24	12	0.10	l)	ii.	И	*	11	n	
C24 <= HC < C28	16	0.10	Ĥ ·	U	0	₩.	Я	**	
C28 <= HC < C32	12	0.10	ш	*	t)	0	0	11	
HC >= C32	0.65	0.10	h	. н	**	TI		*	
Total Petroleum Hydrocarbo (C7-C36)	ons 65	0.50	#	*	u	"	It	,	
Surrogate: o-Terphenyl	*	%	60-	175	t.	п	n	n	5-0
MW-2 (0604255-03) Liquid	Sampled: 04/12/06 11:15	Received:	04/12/06	18:00					
HC < C8	ND	1.0	ng/L	100	B6D2420	04/24/06	04/24/06	EPA 8015B	
C8 <= HC < C9	ND	1,0		И	n	P	11	ti	
C9 <= HC < C10	1.1	1.0	<b>11</b>	71	, n	n	11	(3)%	
C10 <= HC < C11	2.0	1.0	Ħ	-11		D		11	
C11 <= HC < C12	2.8	1.0			4	¥		n	
C12 <= HC < C14	5.9	1.0	11	17	И	a	Ħ	H	
C14 <= HC < C16	5.8	1.0	*	4	•	π	n	at .	
			,ar	19	ņ	*		rr .	
C16 <= HC < C18	5.0	1.0	,"	-	•				
C16 <= HC < C18 C18 <= HC < C20	5.0 3.6	1.0	11		9	11	11	u	
				# #		11	11		
C18 <= HC < C20 C20 <= HC < C24	3.6	1.0	11	# q	1)	111 111	-		
C18 <= HC < C20	3.6 7.0	1.0 1.0	11	स व क	1)	11 11 14	71		
C18 <= HC < C20 C20 <= HC < C24 C24 <= HC < C28 C28 <= HC < C32	3.6 7.0 7.1	1.0 1.0 1.0 1.0	U U M	т п п	1) 11	11 11 14 13	11		
C18 <= HC < C20 C20 <= HC < C24 C24 <= HC < C28	3.6 7.0 7.1 10 3.5	1.0 1.0 1.0	и и и	स व क स स	1) 11	#1 94 178	11		

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5455 Garden Grove Bivd. Suite 200

Westminster CA, 92683

Surrogate: o-Terpheny!

Project: APC

Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

## Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID Sierra Analytical Labs, Inc.

		DAVIAG CLI							
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW-3 (0604255-04) Liquid	Sampled: 04/12/06 12:15	Received:	04/12/06	18:00	***************************************		<del></del>		
HC < C8	ND	1.0	mg/L	100	B6D2420	04/24/06	04/24/06	EPA 8015B	
C8 <= HC < C9	ND	1.0	. 1		11	•	9	и.	
C9 <= HC < C10	ND	1.0	<b>T</b>	n	'n	<b>b</b> 0	P	yı .	
C10 <= HC < C11	ND	1.0	u o	7	17	н	•	u	
C11 <= HC < C12	ND	1.0	<b>A</b> 0	Ħ	ŧI	<b>T</b> (2)	17	¥	
C12 <= HC < C14	ND	1.0	U	₩.	11	ч	N	11	
C14 <= HC < C16	1.5	1.0		71	**	Ħ	*	N.	
C16 <= HC < C18	1.0	1.0	in	NF	II	**	11	Θ μ	
C18 <= HC < C20	1.1	1.0		•	11	7	W	N .	
C20 <= HC < C24	ND	1.0	14	Nt.	Ħ	r	yı .	11	
C24 <= HC < C28	2.6	1.0	11	ч	W	11	11	N	
C28 <= HC < C32	35	1.0	TI.		. 11	Pt .	41	U	
HC >= C32	4.3	1.0	11	v	<b>#</b>	п	À	4	
Total Petroleum Hydrocarbo (C7-C36)	ons , 46	5.0	, 11	· II	II .	, in	Ħ	н	
Surrogate: o-Terphenyl		%	60-	175	н	н	n	и	S-0:
MW-4 (0604255-05) Liquid	Sampled: 04/12/06 13:10	Received:	04/12/06	18:00		(0)			
HC < C8	ND	1.0	mg/L	100	B6D2420	04/24/06	04/24/06	EPA 8015B	·-··
C8 <= HC < C9	ND	1.0	н	н	ŋ	Ų	It	**	
C9 <= HC < C10	ND	1.0	*	*	N	11	И	11	
C10 <= HC < C11	ND	1.0	r	п	TF	ft.	11	*	
C11 <= HC < C12	ND .	1.0	4	*	9	79	IJ	10	
C12 <= HC < C14	1.8	1.0	n	11	31	Ħ	e	11	
C14 <= HC < C16	5.4	1.0	п	*	u	9	Ŋ	η	
C16 <= HC < C18	4.4	1.0	R	118	11		ır	11	
C18 <= HC < C20	4.0	1.0	n	n	II:		11	11	
C20 <= HC < C24	5.2	1.0	×	n	11	11	n	П	
C24 <= HC < C28	9.6	1.0	'n	u	10	ri	п	11	
C28 <= HC < C32	27	1.0	11	11		11		п	
HC >= C32	2.6	1.0	и	Ħ	п	h	u	U	
Total Petroleum Hydrocarb (C7-C36)	ons 60	5.0	ħI.	11	II	*		ri	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

## Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
FB-41206 (0604255-06) Liquid	Sampled: 04/12/06 13:20	Receive	d: 04/12/	06 18:00			_		
HC < C8	ND .	0,010	mg/L	1	B6D2420	04/24/06	04/24/06	EPA 8015B	· · · · · ·
C8 <= HC < C9	ND	0.010	11	II .	77	и -	. #	n	
$C9 \leftarrow HC < C10$	ND	0.010	n	n	*	0	•	M	
C10 <= HC < C11	ND	0.010	11	fr.	ii.	U	91	*	
C11 <= HC < C12	ND	0.010	, H	ĮI.	W	n	n	n	
C12 <= HC < C14	ND	0.010	17	Ħ	P	Ħ		7	
C14 ← HC < C16	ND	0.010	U	**	ţī.	ч	11	#I	
C16 <= HC < C18	ND	0.010	₩	ii.	*	19	ul.	II .	
C18 <= HC < C20	ND	0.010	#	*	II	ĮI.	17	41	
C20 <= HC < C24	ND	0.010	"	19	94	4	T	n	
C24 <= HC < C28	. ND	0.010	*	· · ·	pt.	μ	ut.	u u	
C28 <= HC < C32	ND	0.010	ħ		ų.	М	19	17	
HC >= C32	ND	0.010	M	și.	11	•	н		
Total Petroleum Hydrocarbons (C7-C36)	ND	0.050	Ħ	II.	ш		Ħ	ĸ	
Surrogate: o-Terpheny!		119 %	- 60-	175	• н	n	II	#	***
EB-41206 (0604255-07) Liquid	Sampled: 04/12/06 13:25	Receive	d: 04/12	06 18:00			ē		
HC < C8	ND	0.010	mg/L	1	B6D2420	04/24/06	04/24/06	EPA 8015B	
C8 <= HC < C9	ND	0.010		*		'n	ч	u	
C9 <= HC < C10	ND	0.010	н		v	a a	n	*	
C10 <= HC < C11	ND	0.010	H	н	Ħ	**	n	· · · · · · · · · · · · · · · · · · ·	•
C11 <= HC < C12	ND	0,010		<b>P</b> + 0	и	н	11	u	
C12 ← HC < C14	ND	0.010	м	ţi.	n	II.	h-	11	
C14 <= HC < C16	ND	0.010	Ħ	11	11	II .	P	и 🖭	
C16 <= HC < C18	ND	0.010		in .	ų)	Ħ	l1	11	
C18 <= HC < C20	ND	0.010	-	n ·	9	U	"	ŤÜ	
C20 <= HC < C24	ND	0.010	H	II	in .	71	U	ır	
C24 <= HC < C28	ND	0.010	11	<b>9</b> 1	- H	₩	4		
C24 ~= DC ~ C20		0.010	11	11	n	n	Tr.		
C28 <= HC < C32	ND .					-	n		
7-10-10-10-10-10-10-10-10-10-10-10-10-10-	ND ND	0.010	н	н	Ħ	71		17	
C28 <= HC < C32		210 10	н	#	11	ti Ti	*	11	

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Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

## Volatile Organic Compounds by EPA Method 8260B

## Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Datch	Prepared	Analyzed	Method	Notes
TB-41206 (0604255-01) Liquid					Dittell	Troparec	risigned	Trication .	110168
				<u> </u>		71/24			
Benzene	ND	1.0	μg/L	1	B6D1421	04/13/06	04/13/06	EPA 8260B	
Bromobenzene	ND ·	1.0	-11	1)	IF-	P		-11	
Bromochloromethane	ND	1.0	ji.	11	u	(I	H	ti.	
Bromodichloromethane	ND	1.0	и	n n	11	11	Ų	11	
Bromoform	ND	1.0	H.	И	rr .	₩	ų.	х и	
Bromomethane	ND	5.0	U	Ħ	D	<b>a</b> *	77	'n	
n-Butylbenzene	ND	1.0	И	li .	(1	7		19	
sec-Butylbenzene	ND	1.0		II.	R	n	N	H o	
tert-Butylbenzene	ND	1.0	u,	H	"	TI	11	H	
Carbon tetrachloride	ND	1.0	Ħ	<del>77</del>	н "	4	TÍ.	u u	
Chlorobenzene	ND	1.0	0	. "	IJ	đ	Ħ	н	
Chloroethane	ND	5.0	π	Ħ	n	**	1)	P	*
Chloroform	ND	1.0	•	Tt.	•	Ħ	PJ .	u	
Chloromethane	ND	5.0	P	Ħ	η	11	'n	*	
2-Chlorotoluene	ND	1.0	٠,	**	**	*		U	
4-Chlorotoluene	ND	1.0	H	n	19	li li	ч	н	
Dibromochloromethane	ND	1.0	77	π	**	11	П	*	
1,2-Dibromo-3-chloropropane	ND	5.0	11	ħ	•	0.	ąr	IJ	
1,2-Dibromoethane (EDB)	ND	1.0	ь.	n	11	li .	11	*	
Dibromomethane	ND	1.0	70	7	¥	17	41	D	
1,2-Dichlorobenzene	ND	1.0	Ħ	11	ħ	п	11	11	
1,3-Dichlorobenzene	ND	1.0	11	ur .	11	R	11	•	
1,4-Dichlorobenzene	ND	1.0	19	T	17	u	*	ч	
Dichlorodifiuoromethane	ND	5.0	п	u	н	N	11	10	
1,1-Dichlorocthane	ND	1.0	- 1	11	v	F	W	7	
1,2-Dichloroethane	ND	1.0	Į.	11	4	b		41	
1,1-Dichloroethene	ND	1.0	N	×	n	<b>*</b> .	4	11	
cis-1,2-Dichloroethene	ND	1.0	10	11	IJ	4	Ħ	И	
trans-1,2-Dichloroethene	ND	1.0	, h		II	n	ų.	u	
1,2-Dichloropropane	ND	1.0	W	Р.	4	*	*	11	
1,3-Dichloropropane	ND	1.0	п	n	H	ч	. п	н	
2,2-Dichloropropane	ND	1.0	W	И	N	*	4	tt.	
1,1-Dichloropropene	ND	1.0	17	п	<b>u</b> (	н	*	II.	
cis-1,3-Dichloropropene	ND	+1.0	•	Ħ	ч	u	U	ń	
trans-1,3-Dichloropropene	ND	1.0		#		11	**		
Ethylbenzene	ND	1.0	π	n	n	ţı.	tt	U	
Hexachlorobutadiene	ND	1.0	*	19	7	11	u		
Isopropylbenzene	ND	1.0	В	п	#	))	**	rr ·	
p-Isopropyltoluene	ND	1.0	я	"	п	EI	н	11	
Methylene chloride	ND	1.0		н	*	11	11	n	
Methyl tert-butyl ether	ND	1.0	n	d	79	н	η	н	

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5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

4-Chlorotoluene

Dibromochloromethane

Project; APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

# Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Reporting

Analyte ,	Regult	Limit	Unite	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB-41206 (0604255-01) Liquid					DG.O.I		7 may cot	- Include	3100
				<del></del>					
Naphthalene	ND .	1.0	μg/L	1	B6D1421	04/13/06	04/13/06	EPA 8260B	
n-Propylbenzene	ND	1.0	н	- "	11	Ħ	ų.	17	
Styrene	ND	1.0	11	0 -	"	*	<b>9</b> 4 .	4	
1,1,1,2-Tetrachloroethane	ND	1.0	- 11	.0	М	11	#	*	
1,1,2,2-Tetrachloroethane	ND	1.0	-11	PI.	- II	и	4	"	
Tetrachioroethene	ND	1.0	Ħ	1	n	п	*	u	
Toluene	ND	1.0	0	u	*	11	h	7	
1,2,3-Trichlorobenzene	ND	1.0	íi .	Ħ	n	1/	11	Ħ	
1,2,4-Trichlorobenzene	ND	1.0	Ħ		D	И	111	H	
1,1,1-Trichloroethane	ND	1.0	II	b	₩.	u .	u	11	
1,1,2-Trichloroethane	ND	1,0	íı .	*	#	11	4	*	
Trichloroethene	ND	1.0			Ħ	н	. 0	tı	
Trichlorofluoromethane	ND	5.0	b	u	*	×	И	19	
1,2,3-Trichloropropane	ND	5.0	9	19	PF	4		- <b>#</b>	
1,2,4-Trimethylbenzene	ND	1.0	77		11	н	11	II.	
1,3,5-Trimethylbenzene	ND	1.0	tr	н	#	h	п	₩	
Vinyl chloride	ND	5.0	n		п	a		14	
m,p-Xylene	ND	1.0	M	п	47	#	ri	41	
o-Xylene	ND	1.0	ıı	11	11	77	м	11	
Surrogate: Dibromofluoromethane	3	102 %	86-	118	"		н	и	
Surrogate: Toluene-d8		99.6%	88-	110	<b>"</b>	H	Ħ	n	
Surrogate: 4-Bromofluorobenzene		101 %	86-	115	•	"	"	#	
MW-1 (0604255-02) Liquid Sa	mpled: 04/12/06 10:15 R	leceived:	04/12/06	18:00					
Benzene	1.3	1.0	μg/L	1	B6D1421	04/14/06	04/14/06	EPA 8260B	
Bromobenzeae	ND	1.0	17	11	н	11	77	II.	
Bromochloromethane	ND	1.0	U	- n	9	4	91	H	
Bromodichloromethane	ND	1.0			и	ħ	11	r r	
Bromoform	ND	1.0	4	н	*	U.	At .	Ħ	
Bromomethane	ND	5.0	ч	11	п	u		×	
n-Butylbenzene	ND	1.0			11	-	a)	*	
sec-Butylbenzene	ND	1.0	п	н		Įį.	н	a	
tert-Butylbenzene	1,6	1.0	#	н	и	ıı	N.	W	
Carbon tetrachloride	ND	1.0	*	n d	IJ		ı,	軒	
Chlorobenzene	ND	1.0	n	п *	11	**	4	u .	
Chloroethane	ND	5.0	η					11	
			*		11				
Chloroform	ND	1.0	" "	. "	11	_		n	
Chloromethane	ND	5.0	"	11	н	n h	_	"	
2-Chlorotoluene	ND	1.0	11	11	п	•	Ħ	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

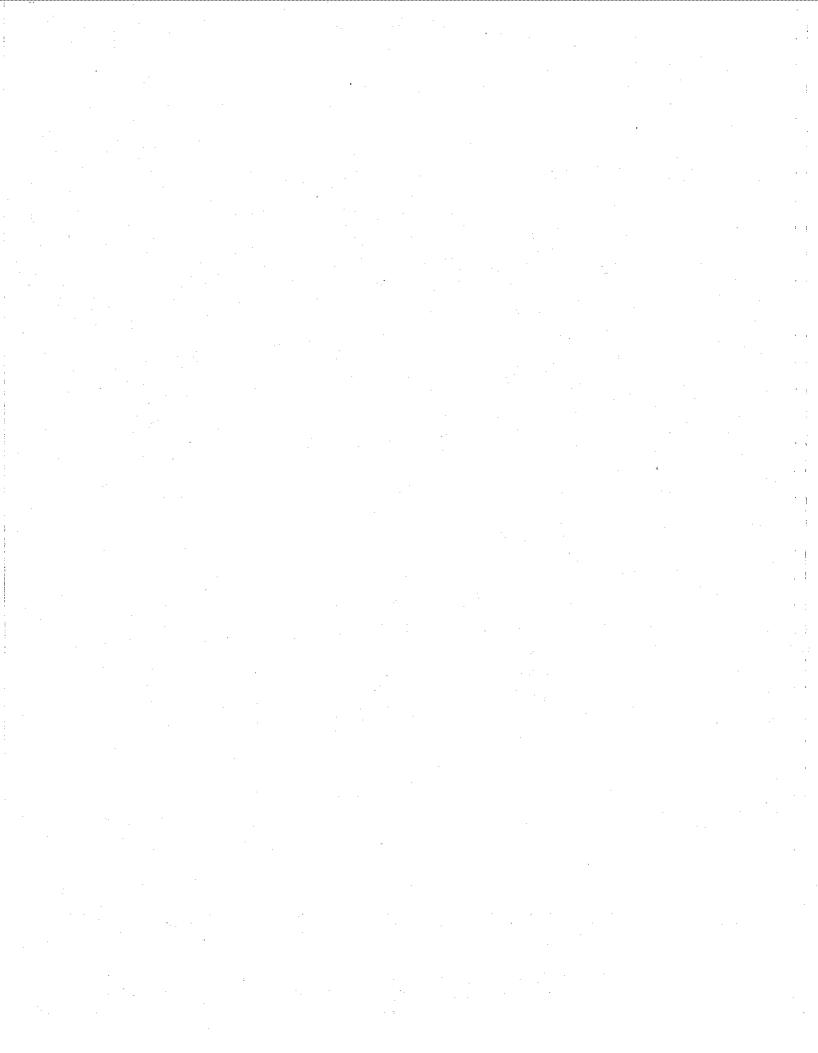
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Westminster CA, 92683

Project: APC

Project Number: H0287C

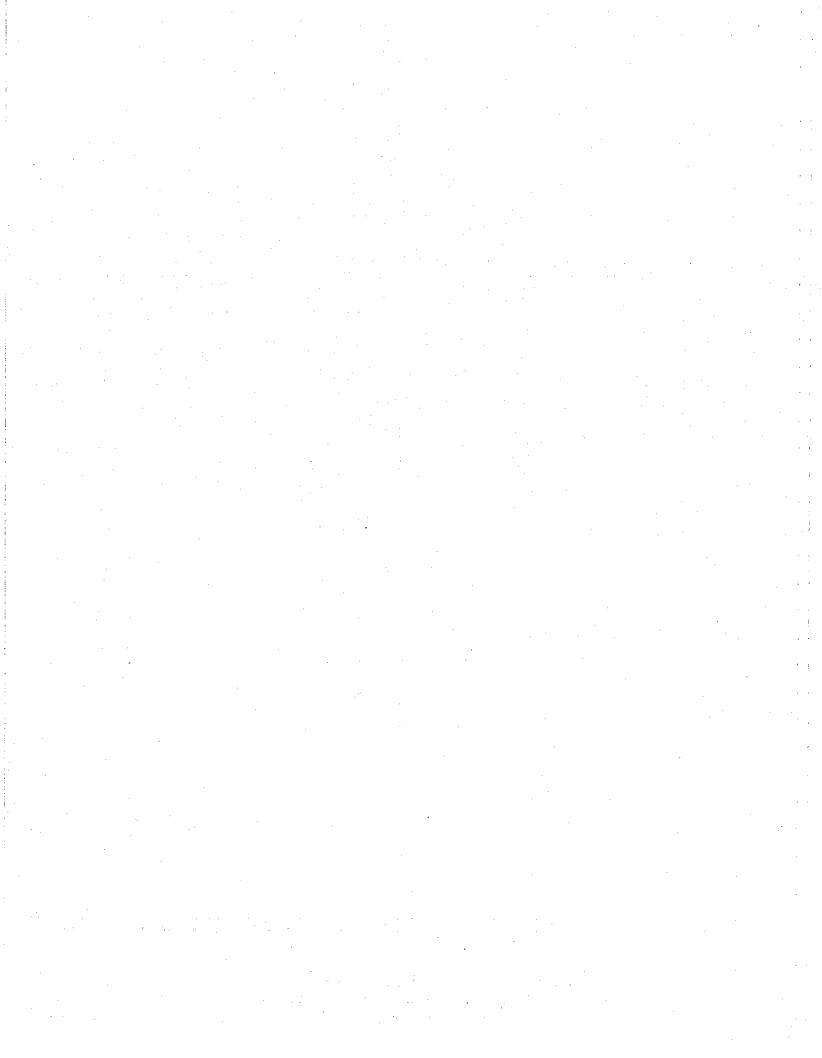
Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

# Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Propared	Analyzed	Method	Notes
MW-1 (0604255-02) Liquid	Sampled: 04/12/06 10:15	Received: (	4/12/06	18:00					
1,2-Dibromo-3-chloropropane	ND	5.0	μg/L	1	B6D1421	04/14/06	04/14/06	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	1.0	11	11	17	11 -		11	
Dibromomethane	ND	1.0		υ	ч	11	11		
1,2-Dichlorobenzene	ND	1.0	н	0	*	"	11	н	
1,3-Dichlorobenzene	ND	1.0	75	11	n	н	11	н _	
1,4-Dichlorobenzene	ND	1.0	η	H	44	II	v	И	
Dichlorodifluoromethene	ND	5.0	n	44	**	11	11	Ħ	
1,1-Dichloroethane	ND	1.0	19	п	п	II	н	11	
1,2-Dichloroethane	ND ·	1.0	n	H	11	II.	v	11	
1,1-Dichloroethene	ND	1.0	11	D	11	"		n	
cis-1,2-Dichloroethene	5.5	1.0	и	rı	11	II	#	19	
trans-1,2-Dichloroethene	5.2	1.0	- 1	n	11	11		0	
1,2-Dichloropropane	ND	1.0	11	u	Н	n	et .	H	
1,3-Dichloropropane	ND	1.0	ii .	π	D	#	17	ø	
2,2-Dichloropropane	ND	1.0	11	u*	11	ıı .	Ħ	n	
1,1-Dichloropropene	ND	1.0	81		10	* 7	#	<b>))</b>	
cis-1,3-Dichloropropene	ND	1,0		19	(r	tt	Ξ π	п	
trans-1,3-Dichloropropene	ND	1.0	D	u	şı.	я *		, <b>*</b>	
Ethylbenzene	ND	1.0	и	-	"	*	11	Dr.	
Hexachlorobutadiene	ND	1.0	σ	n	11	ń		н	
Isopropylbenzene	1.9	1.0	11	Ħ	#	¥	м	*	
p-Isopropyltoluene	3.2	1.0	*	Ħ	77	n	11	TT .	
Methylene chloride	ND	1.0	u		Į1	41	11	н	
Methyl tert-butyl ether	8.9	1.0	N	*	-	*	я	π	
Naphthalene	1.6	1,0	ır	Ħ	*	и	11	н	
n-Propylbenzene	ND	1.0	tı	1	U	0	11	#	
Styrene	ND	1.0	•	17	и,	D	1)	14	
1,1,1,2-Tetrachloroethane	ND	1.0	n	li li	п	ų.	U	п	
1,1,2,2-Terrachloroethane	ND	1.0	¥	17	n	U	11	*	
Tetrachloroethene	ND	1.0	n	п	и	11	N	14	
Toluene	ND	1.0	- 11		ĮI.	W	<b>#</b>	41	
1,2,3-Trichlorobenzene	ND	1.0	78	JI	•	n	11	N	
1,2,4-Trichlorobenzene	ND	1.0	11	N				Ŧ	
1,1,1-Trichloroethane	ND	1.0	17	r	41	et	π	4	
1,1,2-Trichloroethane	ND	1.0	ĮI.	a	1r	н	н	19	
Trichloroethene	1,3	1.0	17	R	h	н		Ħ	
Trichlorofluoromethane	ND	5.0	Ð	n.	17	H	a	17	
1,2,3-Trichloropropane	ND	5.0	N	#	If	*	٩	lu .	*
1,2,4-Trimethylbenzene	ND	1.0	н	n	н	17	17	N	
1,3,5-Trimethylbenzene	ND	1.0	ш	н	17	п	41	31	
Vinyl chloride	20	5.0		*	ц	*	11		





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Westminster CA, 92683

Project: APC

Project Number: H0287C

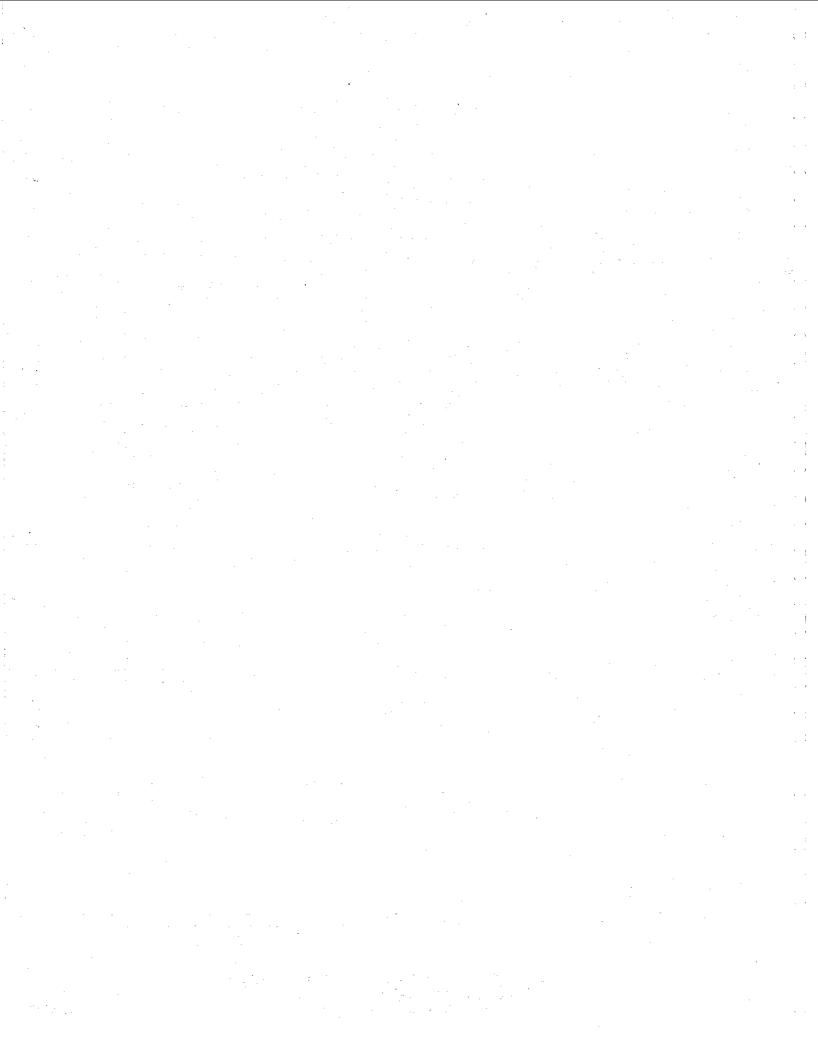
Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

## Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (0604255-02) Liquid	Sampled: 04/12/06 10:15	Received:	04/12/06	18:00					-
m,p-Xyiene	ND	1,0	μg/L	1	B6D1421	04/14/06	04/14/06	EPA 8260B	
o-Xylene	ND	1.0	Ħ	11	11	47	m m	h	
Surrogate: Dibromofluorometh	ane	108%	86	-118	н	"	п	#	
Surrogate: Toluene-d8		101%		-110	*	tr	W	и	-
Surrogate: 4-Bromofluorobenz	ene	104%		-115	N	H	*	и	
MW-2 (0604255-03) Liquid	Sampled: 04/12/06 11:15	Received:	04/12/06	18:00					
Benzene	2.3	1.0	μg/L	1	B6D1421	04/14/06	04/14/06	EPA 8260B	
Bromobenzene	ND	1.0	11	(1	*	И	ri	11	
Bromochloromethane	ND	1.0	P	*	**	P	11	#	
Bromodichloromethane	ND	1.0	ų.	17	r,		IF.	U	
Bromoform	ND	1.0	11	н	**	11	11	#	
Bromomethane .	ND	5.0	U	77	н	11	н	n	
n-Butylbenzene	ND.	1.0	Ħ	ņ	¥	ir .	•	M	
sec-Butylbenzene	16	1.0	u	11	u	IJ	19	H	
tert-Butylbenzene	1.9	1.0	#	π	Ħ	je.		71	
Carbon tetrachloride	ND	1.0	0	91	11	11	n	н	
Chlorobenzene.	ND	1.0	*	•	Ħ	**		•	
Chloroethane	ND	5.0	U	7	11			п	
Chloroform	ND	1.0	11	41	11	u		41	
Chloromethane	ND	5.0		11	Ц	Ħ	n	W	
2-Chlorotoluene	ND	1.0	н	Tr	9	7	и	46	
4-Chlorotoluene	ND	1.0	н	11	II,	*	e	11	
Dibromochloromethane	ND	1.0	41	×	1)	II	16	н	
1,2-Dibromo-3-chloropropane	ND	5.0	r	IJ	и	Ħ	n	ון	
1,2-Dibromoethane (EDB)	ND	1.0	11	п	T.	n	11	Ħ	
Dibromomethane	ND	1.0	II.		Ħ	11	16		
1,2-Dichlorobenzene	ND	1.0	Ŋ.	п	10	u	11	n	
1,3-Dichlorobenzene	ND	1.0	IJ	н	đ	11	н	lf .	
1,4-Dichlorobenzene	ND	1.0		77	Tr.	n .	n	77	
Dichlorodifluoromethane	ND	5.0		*	, N	Ir	IF.	79	
1,1-Dichloroethane	1.1	1.0		н	71	11	ц	tt	
1,2-Dichloroethane	ND	1.0		19	u	ø ,	Ir.	Ħ	
1,1-Dichloroethene	ND	1.0		9	11	и	*	19	
cis-1,2-Dichloroethene	ND	1.0		n	ıı	U	er.	*	
trans-1,2-Dichloroethene	ND	1.0		11	11	ų	N	н	
1,2-Dichloropropane	ND	1.0		11	H	*	"	11	
1,3-Dichloropropane	, ND	1.0		н	"	п	•	57	
2,2-Dichloropropane	ND	1.0		11	M	*	*	9	
1,1-Dichloropropene	ND	1,0		ŋ	u.	n	ч	и	- 2
cis-1,3-Dichloropropene	ND	1.0		11	10	7	•	11	





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Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lec Paprocki

Reported: 04/25/06 09:38

## Volatile Organic Compounds by EPA Method 8260B

## Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW-2 (0604255-03) Liquid	Sampled: 04/12/06 11:15	Received: (	04/12/06	18:00			-		
trans-1,3-Dichloropropene	ND	1,0	μg/L	1	B6D1421	04/14/06	04/14/06	EPA 8260B	
Ethylbenzene	ND	1.0	11	7	H :	· 11	η	H	
Hexachlorobutadiene	ND	1.0	Ħ	Ħ	11	₩.	Ħ	п	
Isopropylbenzene	75	1.0	a		ĮI.	17	Ħ	и	
p-Isopropyltoluene	4.1	1.0	#	17	*	n	U	т.	
Methylene chloride	. ND	1.0	* :	н	e	11	9	а	
Methyl tert-butyl ether	3.5	1.0	н	R	R	ŋ		w	
Naphthalene	16	1.0	*	7		u	NI.	н	
n-Propylbenzene	9.4	1,0	и	41	ų.	41	н	н	
Styrene	ND	1.0	9	*	*	Ħ	m	*	
1,1,1,2-Tetrachloroethane	ND	1.0	Ħ	н	* e		0	44	
1,1,2,2-Tetrachloroethane	ND	1.0	u	₩	W	н	11	#	
Tetrachloroeihene	ND	1.0	11	п	w	"	16	н	
Toluene	ND	1.0	19	11	н	11	P	н	
1,2,3-Trichlorobenzene	ND	1.0	11	*	#	n	31	19	
1,2,4-Trichlorobenzene	ND	1.0	11	н	स	-11	H	n	
1,1,1-Trichloroethane	ND	1.0	11	11			u	14	
1,1,2-Trichloroethane	ND	1.0	l;	n	11	π	Ħ	-0	
Trichloroethene	ND	1.0	11	и	11	78		h	
Trichlorofluoromethane	ND	5.0	Ŋ	10	11	u u	77	11	
1,2,3-Trichloropropane	ND	5.0	9	10	0.0	*	*	Ħ	
1,2,4-Trimethylbenzene	ND	1.0	u	ır	ŧr	n	r	ır -	
1,3,5-Trimethylbenzene	ND	1.0	*	U	16	71	7	b oo	
Vinyl chloride	50	5.0	4	H.	н	*	16	н	
m,p-Xylene	ND	1.0	N	u	D.	ıl	u	ìr	
o-Xylenc	ND	1.0	19	п	4 -	91	N	n	
Surrogate: Dibromofluoromet	hane	107 %	86-	118	M	*	- n	"	
Surrogate: Toluene-d8		101%	88-	110	•		rr	**	
Surrogate: 4-Bromofluoroben	zene	101 %	86-	115	ø	"	n	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 12 of 27

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5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

# Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note:
MW-3 (0604255-04) Liquid	Sampled: 04/12/06 12:15	Received:	04/12/06	18:00					
Benzene	2.0	1,0	μg/L	1	B6D1421	04/13/06	04/13/06	EPA 8260B	1
Bromobenzene	ND	1.0	II .	a	u	¥	ч	•	
Bromochloromethane	ND	1.0	Ú.	"	Ħ	0	₩	79	
Bromodichloromethane	ND	1.0	, "	n	D 8	#	u	Ħ	
Bromoform	ND	1.0		-	H	11	11	*	
Bromomethane	ND	5.0	•	**	7	11	II	N	
n-Butylbenzene	ND	1.0	ď	*	u	#	11	у	
sec-Butylbenzene	16	1.0	*	77	*	11	Į.	II .	
tert-Butylbenzene	ND	1.0	172	H	п -	1)	4	41	
Carbon tetrachloride	ND	1.0	ш			11	r	11	
Chlorobenzene	ND	1.0	47	n	n	0	H	4	
Chloroethane	ND	5.0	ų.	7	11	11	O	Ŋ.	
Chloroform	ND	1.0	71	11	h	· "	11	п	
Chloromethane	ND	5.0	'n	•	u	h	11	н	
2-Chlorotoluene	ND	1.0	- 4	II .	Ħ		4	н	
4-Chiorotoluene	ND	1.0		**		U	म	m	
Dibromochloromethane	ND	1.0	Nr.	п	18	. *	ш	п	
1,2-Dibromo-3-chloropropane		5.0	11	R	н	И	11	Ħ	
1,2-Dibromoethane (EDB)	ND	1.0	17	ц .	. ,,	Ħ	.01	u	
Dibromomethane	ND	1.0	11			π	11	Ħ	
1,2-Dichlorobenzene	ND	1.0	7	Π	я	"	н	u u	
1,3-Dichlorobenzene	ND	1.0	н	#	đ	#		11	
1,4-Dichlorobenzene	ND	1.0	IF.	n	*	II.	77	-11	
Dichlorodifluoromethane	ND	5.0		n	tt.	11	ir	14	
1,1-Dichloroethane	ND	1.0	lt.	77	*	JP	ți	н	
1,2-Dichloroethane	ND	1.0	71	h	н ,	"	*	u	
1,1-Dichloroethene	ND	1.0	b	11	9	п	u		
cis-1,2-Dichloroethene	ND	1.0	77		r	U		н	
trans-1,2-Dichloroethene	ND	1.0	11	11	ď	11			
	ND	1.0	11	Н В	19	7	*	*	
1,2-Dichloropropane			tr	b	H	n	н		
1,3-Dichloropropane	ND ND	1.0 1.0		н	0 11			 11	
2,2-Dichloropropane			76		-0-	n ·	" II		
1,1-Dichloropropene	ND	1.0	i,	н		*	11	u	
cis-1,3-Dichloropropene	ND	1.0	n n		u u	"	11	76	
trans-1,3-Dichloropropene	ND	1.0		н	II	ÿ a	''* 11		
Ethylbenzene	21	1.0	n n	*	· · · · · · · · · · · · · · · · · · ·	" "	11		
Hexachlorobutadiene	ND	1.0	**		71		ıı	,	
Isopropylbenzene	83	1.0		•-				"	
p-Isopropyltolnene	1.4	1.0	u -	*	н _	H		11 IT	- 1
Methylene chloride	ND	1.0	*		■ .	"	. :11		
Methyl tert-butyl ether	1.9	1.0	н	•	19	11	£	11	

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5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

## Volatile Organic Compounds by EPA Method 8260B

## Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW-3 (0604255-04) Liquid	Sampled: 04/12/06 12:15	Received:	4/12/06 18	:00					
Naphthalene	46	1.0	μg/L	1 *	B6D1421	04/13/06	04/13/06	EPA 8260B	
n-Propylbenzene	22	1.0	H	**	'n	н	T	¥	
Styrene	ND	1.0	M	19	11	· · · · · · · · · · · · · · · · · · ·	h	*	
1,1,1,2-Tetrachloroethane	ND	1.0	u*	Э. Н	ii.	ų.	1)	⊙ <b>U</b>	
1,1,2,2-Tetrachloroethane	ND	1.0	*	11	H	Ħ	11	ч	
Tetrachloroethene	ND	1.0	н	Ħ	n	U	11	n	
Toluene	ND	1.0	**	41	11	#	11	x u	
1,2,3-Trichlorobenzene	ND	1.0	n	.0	l)	**	Ħ	14	
1,2,4-Trichlorobeazene	ND	1.0	ম	11	rl	-	11	n ·	
1,1,1-Trichloroethane	ND	1.0	T	11	ı,	T	, M	11	
1,1,2-Trichloroethane	ND	1.0	u	D	u	n	D	н	
Trichloroethene	ND	1.0	π	# 0	ų,	F	Н	11	
Trichlorofluoromethane	ND	5.0	91	þr	Ħ	tı	Ð	in	
1,2,3-Trichloropropane	ND	5.0	19	31	*		* 11	h	
1,2,4-Trimethylbenzene	23	1.0	ч	**	w u	II	ч	н	
1,3,5-Trimethylbenzene	6.3	1.0	11	ţi.	74	y	Ú	н	
Vinyl chloride	53	5.0	n	п	n	4			
m,p-Xylene	28	1.0	ıl		N	(r	Ų	*	
o-Xylene	2.6	1.0	II ×	и	н	ч	-	T/	
Surrogate: Dibromofluoromen	thane	103 %	86-1	18	r	*	n.		
Surrogate: Toluene-d8		101 %	88-1		μ	.,	"	и	
Surrogate: 4-Bromofluoroben	zene	103 %	86-11		n	*	. "	u	
MW-4 (0604255-05) Liquid	Sampled: 04/12/06 13:10	Received:	04/12/06 18	1:00			- 10		
Benzene	3.6	1.0	μg/L	1	B6D1421	04/13/06	04/13/06	BPA 8260B	0
Bromobenzene	ND	1.0	न	₩.	11-	•	<b>b</b>	U	
Bromochloromethane	ND	1.0	n	16	. 11	47	11	11	
Bromodichloromethane	ND	1.0		w	er .		и	U	
Bromoform	ND	1.0	11		11	r,	n	11	
Bromomethane	ND	5.0		ŧr		π	11	19	
n-Butylbenzene	ND	1,0	п		11	19	н	11	
sec-Butylbenzene	16	1.0	M	n.	w	11	н	*	
tert-Butylbenzene	ND	1.0	11	11	n		н	Ħ	
Carbon tetrachloride	ND	1.0	P	H	₹	11	11	11	
Chlorobenzene	ND	1.0	TÎ.	41	11		11	п	,
Chloroethane	. ND	5.0	· ·	10		U	и -	- 11	
Chloroform	ND	1.0	11	н	11	11	U	11	
Chloromethane	ND	5.0	ur	π	*1	π π	11	11	
2-Chlorotoluene	ND	1.0	11	,1	и	11	v	*	
4-Chlorotoluene	ND	1.0	h	11	u	11	"	н	
			,	,,	··	* 4	17 ab	* 11	
Dibromochloromethane	ND	1.0		. "	-	.,		т н	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

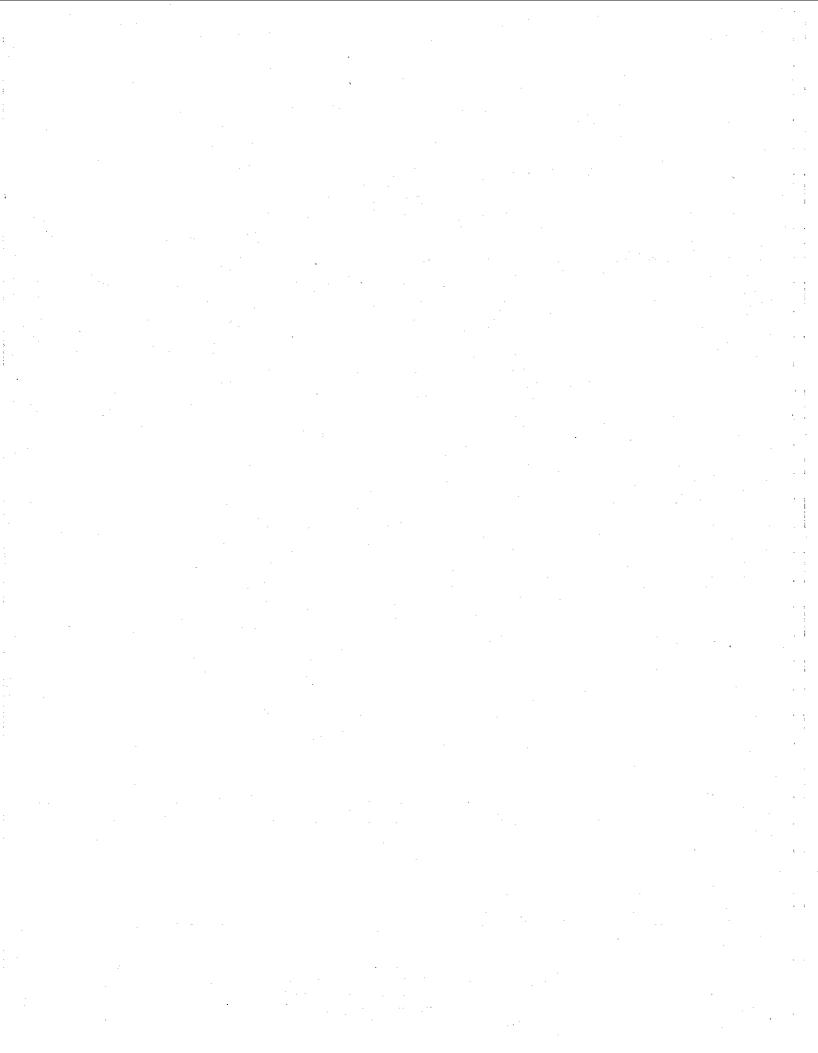
## Volatile Organic Compounds by EPA Method 8260B

#### Sierra Analytical Labs, Inc.

	<u> </u>	Reporting	,	2000, 2					<del></del>
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW-4 (0604255-05) Liquid	Sampled: 04/12/06 13:10	Received:	04/ <b>12</b> /06 1	8:00					-
1,2-Dibromo-3-chloropropane	ND	5.0	μg/L	-, 1	B6D1421	04/13/06	04/13/06	EPA 8260B	
1,2-Dibromoethane (EDB)	תא	1.0	П	11	П	•	н	II .	
Dibromomethane	ND	1.0	· 17	ч	W	₩	77	i n	
1,2-Dichiorobenzene	ND	1.0	"	77	(I	U	n	11	
1,3-Dichlorobenzene	ND	1.0	11	п	n n 1	*	#	11	
1,4-Dichlorobenzene	ND	1.0	. #	"		#	Ħ	P	
Dichlorodifluoromethane	ND	5.0	77	11	п	n	U	P	
1,1-Dichloroethane	ND	1.0	li .	-0	11	•		II .	
1,2-Dichloroethane	ND	1.0	H.	D	lt.	Ħ	•	*	
1,1-Dichloroethene	ND	1.0	. 11	11	U	H	9	U	
cis-1,2-Dichloroethene	ND	1.0	0	- 11	11	*		π	
trans-1,2-Dichloroethene	ND	1.0	11	D	H	Ħ	n	#	
1,2-Dichloropropane	ND	1.0	Π	n n	. #	u	ų.	71	
1,3-Dichloropropane	ND	1.0	. "	* 4	U	17	ŧr	11	
2,2-Dichloropropane	ND	1.0	0 *	II.	0	Ħ	n	#	
1,1-Dichloropropene	ND	1.0	11	II .	H	41	U	π	
cis-1,3-Dichloropropene	ND	1.0	**	₩ 1		11	11-		
trans-1,3-Dichloropropene	ND	1.0	u	nf	Ħ	н	1#	м	
Ethylbenzene	1.5	1,0	π	н	*	п	n	11	
Hexachlorobutadiene	ND	1.0	77	W	* 11	n		÷ e	
lsopropylbenzene	86	1.0	u	ħ	#	и	н		
p-Isopropyltoluene	4.1	1.0	*	H	n	ŧř		11	
Methylene chloride	ND	1.0	п	•	ч	п	•	17	
Methyl tert-butyl ether	3.0	1.0	น	Ħ		*	11	11	
Naphthalene	4,5	1,0	*	*tr	*	π	*	н	
n-Propylbenzene	10	1.0	n	71	ч	q		W <sub>2</sub>	
Styrene	ND	1.0	e n	н			11	11	
1,1,1,2-Tetrachloroethane	ND	1.0	71	a	11	D		и	
1,1,2,2-Tetrachlorocthane	ND	1.0	h	18	h	u	n	н	
Tetrachloroethene	2.7	1.0	37	Ħ	11	11	9		
Toluene	ND	1.0	11	,	"		"	rt .	
		1.0		 1t	u u	"	11		-
1,2,3-Trichlorobenzene	ND				11	11			
1,2,4-Trichlorobenzene	ND	1.0	11	т.	n .	70	11		
1,1,1-Trichloroethane	ND	1.0	11	"			0	n	
1,1,2-Trichloroethane	ND	1.0				∵ e		, II	
Trichloroethene	ND	1.0				1		. "	
Trichlorofluoromethane	ND	5.0	11	n	R .	И	11	7	
1,2,3-Trichloropropane	ND	5.0	#	**		JI .	ři		
1,2,4-Trimethylbenzene	ND	1.0	ņ		Ħ	b	"		
1,3,5-Trimethylhenzene	ND	1.0	ч	Ħ	7	П	ч	"	
Vinyl chloride	57	5.0	*	u	*	W	i,	Ð	-1-

The results in this report apply to the samples analysed in accordance with the chain of custody document. This analysical report must be reproduced in its entirety.

Page 15 of 27





5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

# Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Lahs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW-4 (0604255-05) Liquid	Sampled: 04/12/06 13:10	Received:	04/12/06	18:00	.*		<del></del>		••••
m,p-Xylene	ND	1.0	μg/L	1	B6D1421	04/13/06	04/13/06	EPA 8260B	
o-Xylene	ND	1.0	11		e	11	11	. 4	
Surrogate: Dibromofluorometha	ane	103 %	86	-118	n	n	W.,-	ı	
Surrogate: Toluene-d8		100 %		-110	#	n	- "		
Surrogate: 4-Bromofluorobenze	ene	102 %		-115		n	v -		-
FB-41206 (0604255-06) Liquid	Sampled: 04/12/06 13:2	20 Receive	d: 04/12	/06 18:00					
Benzene	ND	1,0	μg/L	1	B6D1421	04/13/06	04/13/06	EPA 8260B	
Bromobenzene	ND	1.0	7	h	u	ıı	10	74	
Bromochloromethane	ND	1.0	*	U	-10	H	п	11	
Bromodichloromethane	ND	1.0	n	11	11	9	*	Ħ	
Bromoform	ND	1.0	n	11	te.	a	,,	o th	
Bromomethane	ND	5.0	79	п	н	*	. a	17	
n-Butylbenzene	ND	1.0	η	le	п	7	я	11	
sec-Butylbenzene	ND	1.0	н	ų	11	19	in-	u	
tert-Butylbenzene	ND	1.0	70	11	D	n	11	4	
Carbon tetrachloride	ND	1.0	78	п	N	*	#	17	
Chlorobenzene	ND	1.0	11	R	m	T	₹	п	
Chloroethane	ND .	5.0	11	4	n	н	Ħ		
Chloroform	. ND	1.0	17	4	e	η	h		
Chloromethane	ND	5.0	11		*	* 11	**	н	
2-Chlorotoluene	ND	1.0		**	*	11	11	11	
4-Chlorotoluene	ND	1.0	11	ti	н	ĮI.	n	R	
Dibromochloromethane	ND	1.0	jı.	#	4	н	ч	e	
1,2-Dibromo-3-chloropropane	ND	5.0	n	Ħ	*	11	**	n	
1,2-Dibromoethane (EDB)	ND	1.0		'n		0.0	11	**	
Dibromomethene	ND	1.0		ų	<b>n</b> .,.	н	0.0	#	
1,2-Dichlorobenzene	ND	1.0	e	- 11	9	P	III	n	
1,3-Dichlorobenzene	ND	1.0	Ħ	11	19	ш	U		
1,4-Dichlorobenzene	ND	1.0	*	н	н	н	n	u	
Dichlorodifluoromethane	ND	5.0	19	ır	8 pt	#	•	19	
1,1-Dichloroethane	ND	1.0	п	11	th.	u.		19	
1,2-Dichloroethane	ND	1.0	*	ń	ц	* u	"		
1,1-Dichloroethene	ND	1.0		11	н	B 7		п	
cis-1,2-Dichloroethene	ND	1.0	u	Pr.		*	7	11	
trans-1,2-Dichloroethene	ND	1.0	и.		D	я	н	. 11	
1,2-Dichloropropane	ND	1.0	19	۳.	ņ	n	11	н	
1,3-Dichloropropane	ND	1.0	11	11	44	n	*	ų	
2,2-Dichloropropane	ND	1.0	п	π	#	*	**	u	0
1,1-Dichloropropene	ND	1.0	11		ø		н	ŋ	
cis-1,3-Dichloropropene	ND	1.0	14		ıı.			tt.	

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5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

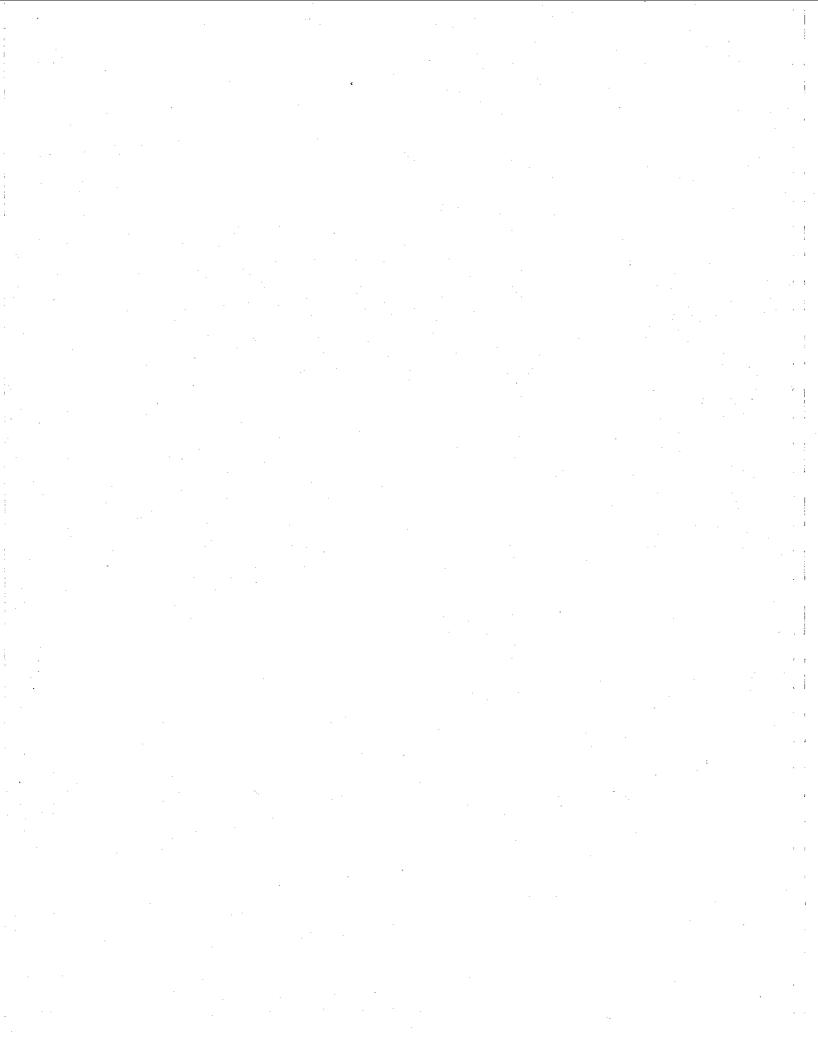
Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

# Volatile Organic Compounds by EPA Method 8260B

### Sierra Analytical Labs, Inc.

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
FB-41206 (0604255-06) Liquid	Sampled: 04/12/06 13:20	Receive	d: 04/12/	06 18:00					
trans-1,3-Dichloropropene	ND	1.0	μg/L	: 1	B6D1421	04/13/06	04/13/06	EPA 8260B	
Ethylbenzene	ND	1.0	ų	. 4	n	4	-11	· g	
Hexachlorobutadiene	ND	1.0	Ħ	11	И	w	H	16	
Isopropylbenzene	ND	1.0	9	.0. *	77	41	14	M	
p-Isopropyltoluene	ND	1.0	Ħ	ų.	11	P.		11	1
Methylene chloride	ND	1.0	41	1)	· · · · · · · · · · · · · · · · · · ·	n.	77		
Methyl tert-butyl ether	ND	1.0		41	<b>t</b> I	U	*	II .	
Naphthalene	ND	1.0	11	II	11 8	Ħ	7	Ħ	
n-Propylhenzene	ND	1.0	h	<b>#</b>	п	in	T7	11	
Styrene	ND	1.0	11	11	11	*	14	н .*	
1,1,1,2-Tetrachloroethane	ND	1.0	H			11	n	, .	
1,1,2,2-Tetrachloroethane	ND	1.0	et	ч	u	11	**	19	
Tetrachloroethene	ND	1.0	•	n	*	ŋ	11	π	
Toluene	ND	1.0	H	π	н	11	11	н	
1,2,3-Trichlorobenzene	ND	1.0		e h	n	ч	11	· ·	
1,2,4-Trichlorobenzene	ND	1.0	er er	*	#	11	н	D	
1,1,1-Trichloroethane	ND	0.1	#	u	п	"	n n	11	
1,1,2-Trichloroethane	ND	1.0	₩	77	•	0	h	ti	
Trichloroethene	ND	1.0	ir .	9	H	U	Įr.	н	
Trichlorofluoromethane	ND	5.0	Ð	11	**	π	T	* P	
1,2,3-Trichloropropane	ND	5.0	π	11	N N	II .	u.	н	
1,2,4-Trimethylbenzene	ND	1.0	11	it is	11	#	*	Ir .	
1,3,5-Trimethylbenzene	ND	1.0	H		**	n	n	44	
Vinyl chloride	ND	5.0	ĮĮ	Ŋ	19	*	<b>#</b>	ų.	
m,p-Xylene	ND	1.0	11	ır	br	H	n	*	-
o-Xylene	ND	1.0	11	н	- ij	**			
Surrogate: Dibromofluoromethal	ne	105 %	86	-118	4	W	#	"	
Surrogate: Toluene-d8		99.8%	88	-110	л	*	n	n	
Surrogate: 4-Bromofluorobenzen	e	102 %	86	-115	*	P	rr	μ	





5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

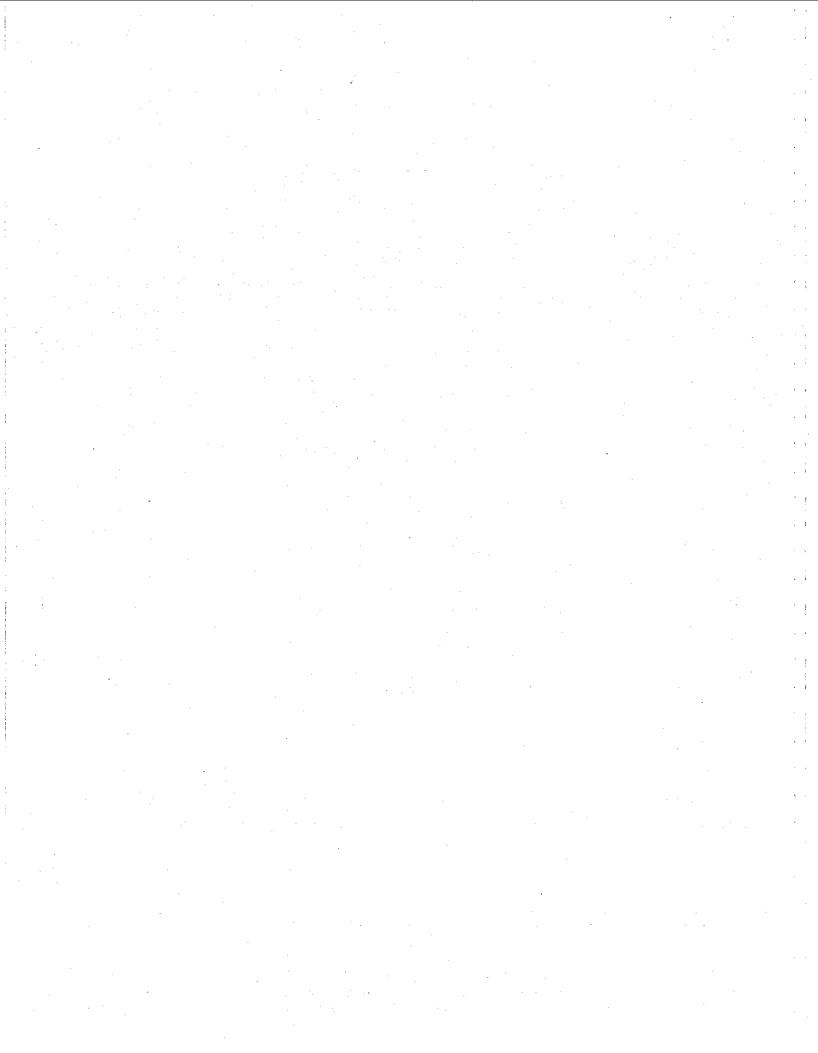
Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

# Volatile Organic Compounds by EPA Method 8260B

#### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
EB-41206 (0604255-07) Liquid	Sampled: 04/12/06 13:25	Receive	d: 04/12/	06 18:00					
Benzene	ND	1.0	μ <b>g</b> /L	1	B6D1421	04/13/06	04/13/06	EPA 8260B	×.,
Bromobenzene	ND	1.0		11	н	77			
Bromochloromethane	ND	1.0		H	M	ii.	ď	Ħ	
Bromodichloromethane	ND	1.0	, P	v	-1 1	19	Ħ	th-	
Bromoform	ND	1.0	94	ń	н *	u	ч	Ψ	
Bromomeihane	ND	5.0	11	17	u	11	¥	V	
n-Butylbenzene	ND	1.0	#	in	'n	ч	ti	11	
sec-Butylbenzene	ND	1.0	ıl	ų	17	. 11	Ħ	17	
tert-Butylbenzene	ND	1.0	II	н	IJ	Đ.	u	14	
Carbon tetrachloride	ND	1.0	n	19	11-	Ħ	T	v	
Chlorobenzene	ND	1.0	)r	Ħ	н	D	11	и	
Chloroethane	ND	5.0	и		n	w	-11	- 9	
Chloroform	ND	1.0	п	Ħ	N	Ü	0	14	
Chloromethane	ND	5.0	И	**	77	*	ii .	н	
2-Chlorotoluene	ND	1.0	н	h	H	ĮI.	ıt	te	
4-Chlorotoluene	ND	1.0	ir	76	, n	*	Ü,	ji	
Dibromochloromethane	ND	1.0	*1	11	**	h	U	ĸ	
1,2-Dibromo-3-chloropropane	ND	5.0	H	*	71	*	Ŋ	11	
1,2-Dibromoethane (EDB)	ND	1.0	₩	11	7	· N	U	**	
Dibromomethane	ND	1.0	r	11	ti .	त		11	
1,2-Dichlorobenzene	ND	1.0	*	u	n	•	u	**	
1,3-Dichlorobenzene	ND	1.0	ч		1(	11	*	น	
1,4-Dichlorobenzene	ND	1.0	11	п	6	0	41	11	
Dichlorodifluoromethane	ND	5.0	u	11	4	Ħ	*	ıı .	
1,1-Dichloroethane	ND	1.0	ıf	H ()	9	11	н	11	
1,2-Dichloroethane	ND	1:0	11	н	19	9	ll	"	
1,1-Dichioroethene	ND	1.0	10	lt.	h	11	11	-0	
cis-1,2-Dichloroethene	ND	1.0	II.	Ħ	lt.	4	H	"	
trans-1,2-Dichloroethene	ND	1.0	н	Φ υ	Ħ	11	*	11	
1,2-Dichloropropane	ND	1.0	U	N	ti	Ħ	9	<b>))</b>	
1,3-Dichloropropane	ND	1.0	*	h	*	11	9 11	u	
2,2-Dichloropropane	ND	1.0	și	Ħ	н		9	U	
1,1-Dichloropropene	ND	1.0	Ħ	11	#	e	11	π	
cis-1,3-Dichloropropene	ND	1.0	Ħ	π		n	п	17	
trans-1,3-Dichloropropene	ND	1.0	π	4	h	ч п	И	11	
Ethylbenzene	ND	1.0		H	•	n	ц	TI	
Hexachlorobutadiene	ND	1.0	u	•	h	*	ΙI		
Isopropylbenzene	ND	1.0		м	-	ri	u	н	
p-Isopropyltoluene	ND	1.0	'n	11	н	. 0	11	99	
Methylene chloride	ND	1.0	и	9	7	н	Į.	, "	
Methyl tert-butyl ether	ND	1.0	- 1	17	н	11	11		
TITOMINI COLL CHINI CHICK	1112	1.0							





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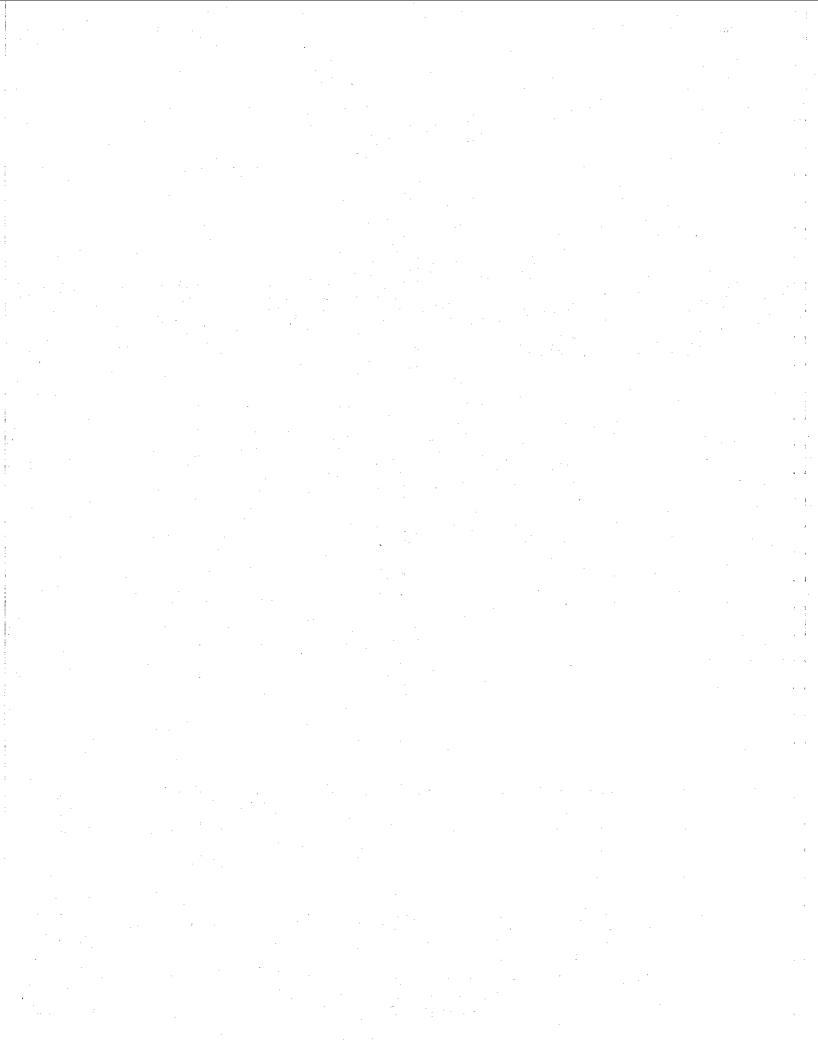
Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

### Volatile Organic Compounds by EPA Method 8260B

	]	Reporting		-					
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzod	Method	Note
EB-41206 (0604255-07) Liquid	Sampled: 04/12/06 13:25	Receive	d: 04/12/06	18:00		· · · · · · · · ·			
Naphthalene	ND	1,0	μg/L	ī	B6D1421	04/13/06	04/13/06	EPA 8260B	
n-Propylbenzene	ND	1.0	·II	H ->	11	н	79		
Styrene	ND	1.0	*	11	М	10	R	19	
1,1,1,2-Tetrachloroethane	ND	1.0	1/	Ħ	10	IJ	п	M E	
1,1,2,2-Tetrachloroethane	ND	1.0	N	Ħ	17		•	n	
Tetrachloroethene	ND	1.0	r	u	ž H	r	n	11	
Toluene	ND	1.0	li .	H	17	п	rı rı	P	
1,2,3-Trichlorobenzene	ND	1.0		-19	11	P	Ħ	н	
1,2,4-Trichlorobenzene	ND	1,0	U	Ħ		4	n	11	
1,1,1-Trichloroethane	ND	1.0	ħ		п	•	**	*	
1,1,2-Trichloroethene	ND	1.0	п	u	It	r	<b>6</b>	11	
Trichloroethene	ND	1.0		-	- 11	IJ	91		
Trichlorofluoromethane	ND	5.0	*	n	а	*	11	n	
1,2,3-Trichloropropane	ND	5.0	u	n	#1	n	П	Ŋ	
1,2,4-Trimethylbenzene	ND	1.0	*	T		11	11		
1,3,5-Trimethylbenzene	ND	1.0	Ħ	U	M	II .	n	ų.	
Vinyl chloride	ND	5.0	11	19	19	1)	"	11	
m,p-Xylene	ND	1.0	10	Ji.	u	μ	, u	н	
o-Xylene	ND	1.0	11	11		0 .	н	11	
Surrogate: Dibromofluoromethane	3	103 %	86-11	8	"	*	n	р	
Surrogate: Toluene-d8	•	101%	88-11	0	H	ħ	н	*	
Surrogate: 4-Bromofluorohenzene		102%	86-11	5	×	н	п	N	*





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Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

### Metals by EPA 6000/7000 Series Methods - Quality Control

#### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D1820 - EPA 3010A				*						
Blank (B6D1820-BLK1)			<u> </u>	Prepared:	04/18/06	Analyzed	: 04/1 <b>9/06</b>			
Antimony	ND	0.023	mg/L			<del>-</del>				
Arsenic	ND	0.025	Ħ							
Barium	ND	0.019	11:21							
Beryllium	ND	0.0090	u							
Cadmium	ND	0.0040	• 12							
Chromium	ND	0.0060	19		1					
Cobalt	ND	0.0060	11							*
Copper	ND	0.012	TF							
Lead	ND	0.019	u u						8	
Molybdenum	ND	0.028	11			0.0				
Nickel	ND	0.010	н	-1-						
Selenium	ND	0.026	11							
Silver	ND	0.0030	11							
Thallium	ND	0.011	Ħ				-			
Vanadium	ND	0.012	u			*				
Zinc	ND	0.024	ħ							
LCS (B6D1820-BS1)				Prepared	: 04/18/06	Analyzea	5: 04/1 <b>9/</b> 06			
Antimony	0.207	0.023	mg/L	0.200		104	80-120			
Arsenic	0.165	0.025	**	0.200		82.5	80-120			
Barium	0.204	0.019		0,200		102	80-120			
Beryllium	0.212	0.0090		0.200		106	80-120			
Cadmium	0.189	0.0040		0.200		94.5	80-120			
Chromium	0.207	0.0060		0.200		104	80-120			
Cobalt	0.217	0.0060	n	0.200		108	80-120			
Copper	0.224	0.012	0	0.200		112	80-120			
Lead	0.212	0.019	17	0.200		106	80-120			
Molybdenum	0.203	0.028	_ #	0.200		102	80-120			
Nickel	0,206	0.010	11	0.200		103	80-120			
Selenium	0,166	0.026	IF	0.200		83.0	80-120			
Silver	0.195	0.0030		0.200		97.5	80-120			
Thallium	0.186	0.011	н	0.200		93.0	80-120			
Vanadium	0.217	0.012		0.200		108	80-120			
Zinc	0,178	0.024	11	0.200		89.0	80-120			

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Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

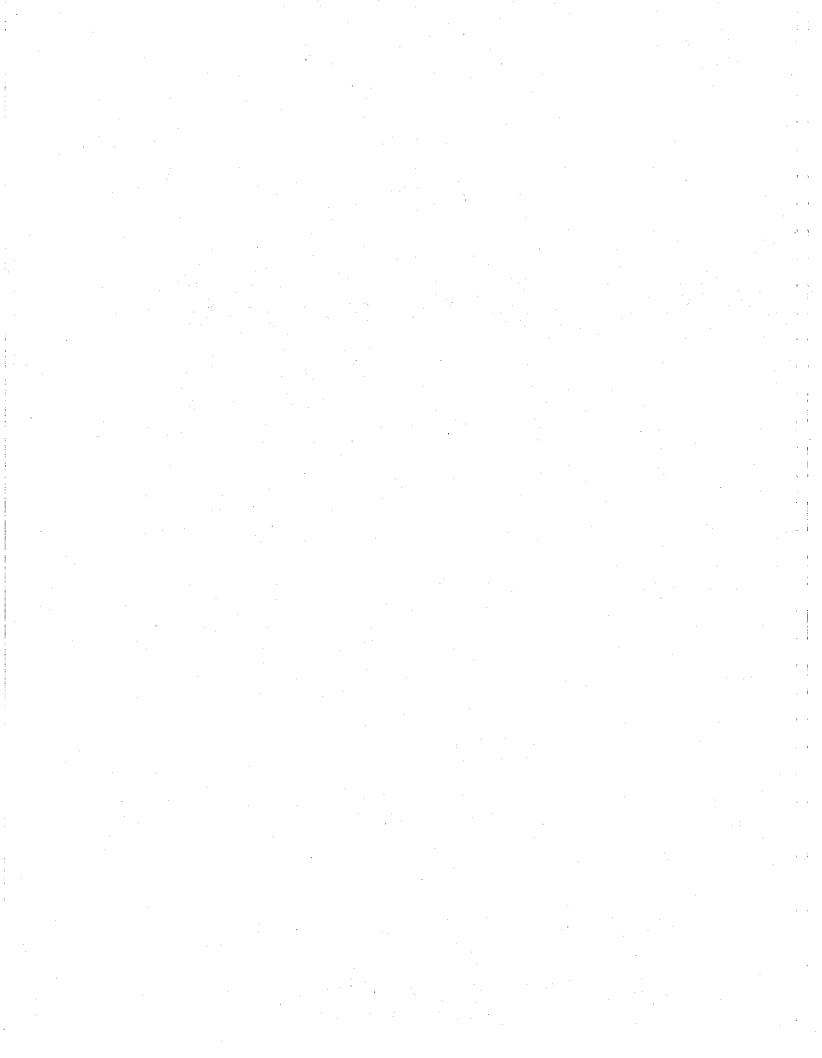
Reported: 04/25/06 09:38

# Metals by EPA 6000/7000 Series Methods - Quality Control

#### Sierra Analytical Labs, Inc.

	-	Reporting		Spike	Воштое		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes .

Matrix Spike (B6D1820-MS1)	Sou	rce: 0604 <b>2</b> 0	5-01	Prepared:	04/18/06	Analyzed	l: 04/19/06		
Antimony	0.199	0.023	ng/L	0.200	ND	99.5	75-125	4.	
Arsenic	0.176	0.025	Ħ	0.200	ND	88.0	75-125		
Barium	0.253	0.019	Ħ	0.200	0.067	93.0	75-125		
Beryllium	0.206	0.0090	ч	0.200	ND	103	75-125		
Cadmium	0.184	0.0040	И	0.200	0.00099	91.5	75-125		
Chronium	0.200	0.0060	П	0.200	0.0049	97.6	75-125		
Cobalt	0.209	0.0060	п	0.200	0.0041	102	75-125		
Copper	0.269	0.012	41	0,200	0.047	111	75-125		×
ead	0.206	0.019	11	0.200	0.018	94.0	75-125		
Molybdenum	0.200	0.028	19	0.200	0.0061	97.0	75-125		
Nickel	0.195	0.010	н	0.200	ND	97.5	75-125		
Selenium	0.153	0.026	*	0.200	ND	76.5	75-125		
Silver	0.191	0.0030	11	0.200	ND	95.5	75-125		
Challium	0.175	0.011	1)	0.200	ND	87.5	75-125		
Vanadium:	0.221	0.012	n	0.200	0.020	100	75-125		
Zinc	0.232	0.024		0.200	0.060	86.0	75-125		
Matrix Spike Dup (B6D1820-MSD1)	Sou	rce: 060420	5-01	Prepared:	04/18/06	Analyze	d: 04/19/06		
Antimony	0.208	0.023	mg/L	0.200	ND	104	75-125	4.42	20
Arsenic	0.179	0.025	*	0.200	ND	89.5	75-125	1.69	20
Barium	0,268	0.019	¥	0.200	0.067	- 100	75-125	5.76	20
Beryllium	0.212	0.0090	п	0.200	ND	106	75-125	2.87	20
Cadmium	0.190	0.0040	я	0.200	0.00099	94.5	75-125	3.21	20
Chromium	0.206	0.0060	11	0,200	0.0049	101	75-125	2.96	20
Cobalt	0.215	0,0060	11	0.200	0.0041	105	75-125	2,83	20
Copper	0.284	0.012	l1	0.200	0.047	118	75-125	5.42	20
Lead	0.211	0.019	)r	0,200	0.018	96.5	75-125	2.40	20
Malybdenum	0.206	0.028	۳.	0.200	0.0061	100	75-125	2,96	20
Nickel	0.200	0.010	н	0.200	ND	100	75-125	2.53	20
Selenium	0.154	0.026	II	0.200	ND	77.0	75-125	0.651	20
Silver	0.197	0.0030	v	0.200	ND	98,5	75-125	3.09	20
Thallium	0.181	0.011	D	0.200	ND	90.5	75-125	3.37	20
Uman Alama	0,230	0,012	- 71	0.200	0.020	105	75-125	3.99	20
Variadium	0,230	0,012		0.200	0.020	100	12-123	3.33	20





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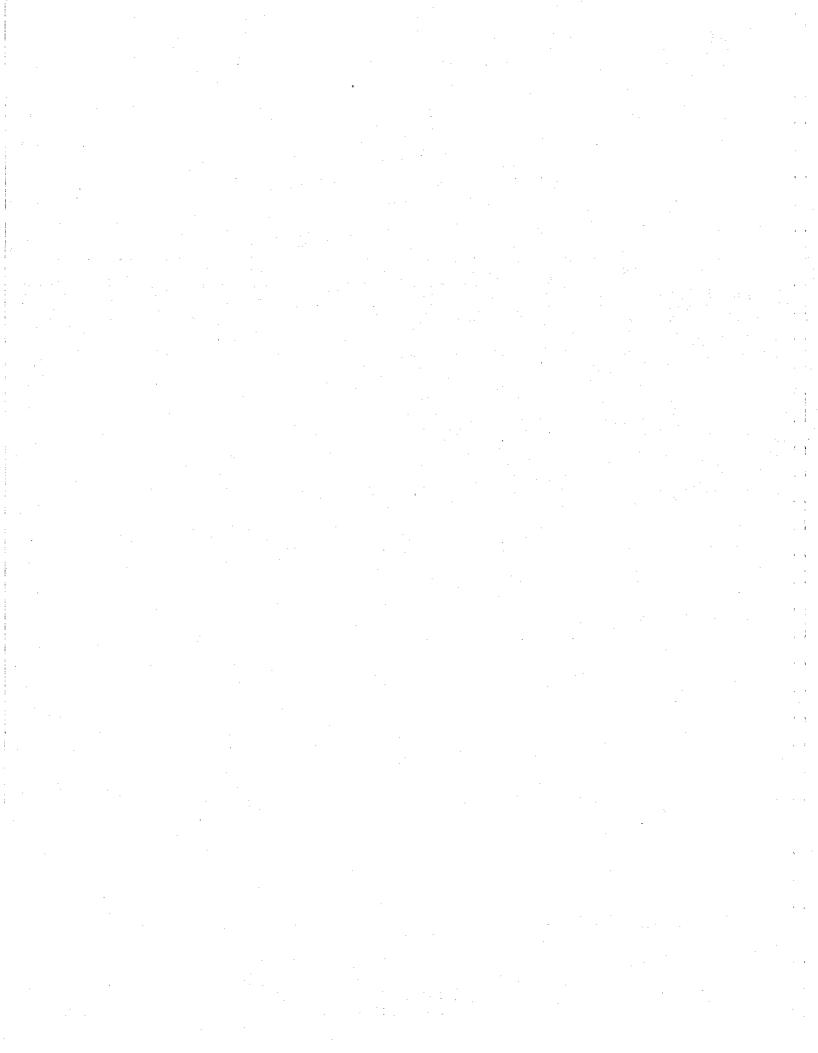
Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

#### Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	`%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D1920 - EPA 7470A			,							
Blank (B6D1920-BLK1)				Prepared	& Analyz	ed: 04/19/	06			· · · · ·
Mercury	ND	0.00073	mg/L		1					
LCS (B6D1920-BS1)		•		Prepared	& Analyz	ed: 04/1 <b>9</b> /	06			
Mercury	0.00107	0.00073	mg/L	0.00100		107	80-120			
Matrix Spike (B6D1920-MS1)	Sou	ırce: 060422	1-02	Prepared	& Analyz	ed: 04/19/	06			
Mercury	0.00114	0.00073	mg/L	0.00100	ND	114	70-130			
Matrix Spike Dup (B6D1920-MSD1)	Soi	ırce: 060422	1-02	Prepared	& Analyz	ed: 04/19/	06			
Mercury	0.00117	0.00073	mg/L	0.00100	ND	117	70-130	2.60	30	
Batch B6D2406 - 7199						• .				
Blank (B6D2406-BLK1)				Prepared	& Analyz	ed: 04/12/	06			
Hexavalent Chromium	ND	0.0020	mg/L							
LCS (B6D2406-BS1)				Prepared	& Алаіуг	ed: 04/12/	06			
Hexavalent Chromium	0.00598	0.0020	mg/L	0.00600		99.7	85-115			
Matrix Spike (B6D2406-MS1)	Son	urce: 060425	5-06	Prepared	& Analyz	ed: 04/12/	06			
Hexavalent Chromium	0.00985	0.0020	mg/L	0.00600	ND	164	80-120			QM-0
Matrix Spike Dup (B6D2406-MSD1)	Son	urce: 060425	5-06	Prepared	& Analyz	ed: 04/12/	06			
Hexavalent Chromium	0.00732	0.0020	mg/L	0.00600	ND	122	80-120	29.5	20	QM-0′





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Project: APC

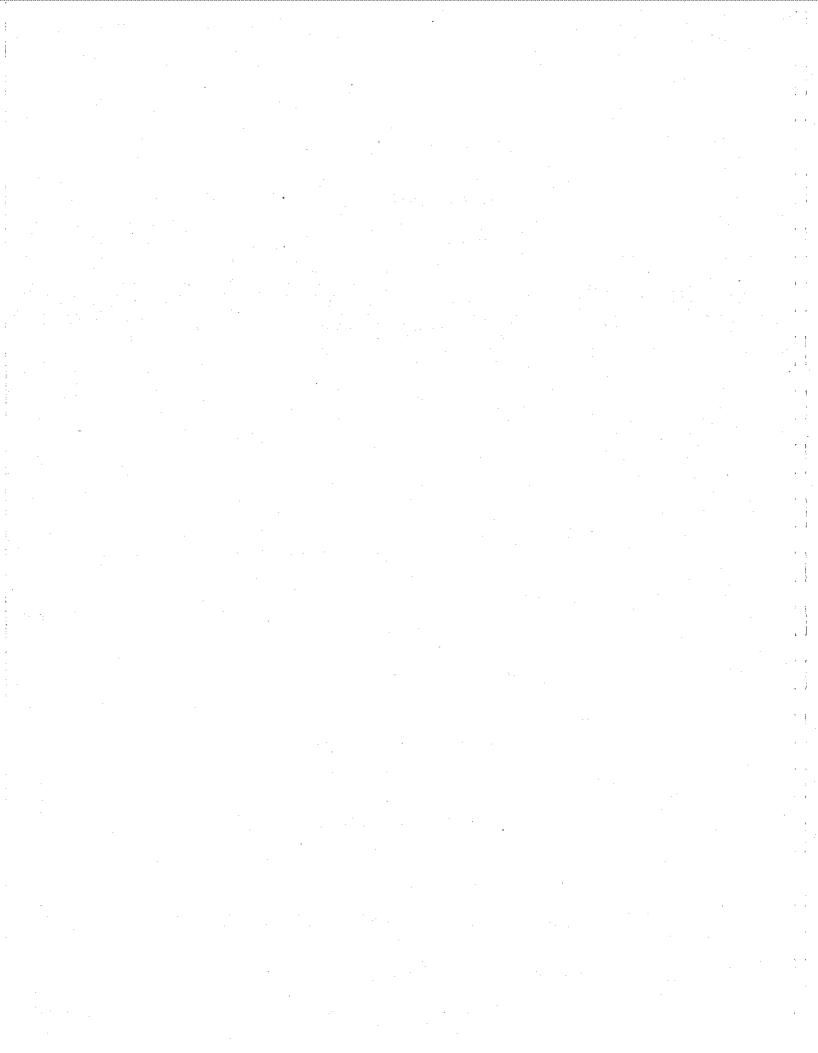
Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

# Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID - Quality Control

#### Sierra Analytical Labs, Inc.

Analyte	Remilt	Reporting Limit	Unite	Spike Level	Source Result	%RBC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D2420 - EPA 3510C Sep F1	ınnel					- 35				
Blank (B6D2420-BLK1)				Prepared	& Апаlуж	d: 04/24/0	06		-	•
HC < C8	ND	0.010	mg/L	-						+
C8 ← HC < C9	ND	0.010	U			*				
C9 <= HC < C10	ND	0.010	*	101						
C10 <= HC < C11	ND	0.010	R							
C11 ← HC < C12	ND	0.010	N							
C12 <= HC < C14	· ND	0.010	п							
C14 <= HC < C16	ND	0.010	*		-					
C16 <= HC < C18	ND	0.010	и							
C18 <= HC < C20	ND	0.010	н	•						
C20 <= HC < C24	ND	0.010	71						*	
C24 <= HC < C28	ND	0.010	h							
C28 <= HC < C32	ND	0.010	11							
HC >= C32	ND	0.010								
Total Petroleum Hydrocarbons (C7-C36)	ND	0.050	47							
Surrogate: o-Terphenyl	0.0656		ii .	0.100		65.6	60-175			
LCS (B6D2420-B91)				Prepared	& Analyz	ed: 04/24/	06			
Diesel Range Organics (C10-C24)	0.739	0.050	mg/L	0.800		92.4	80-120			





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Batch B6D1421 - EPA 5030B P & T

Westminster CA, 92683

cis-1,3-Dichloropropene

Hexachlorobumdiene

Ethylbenzene

trans-1,3-Dichloropropene

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

#### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Sierra Analytical Labs, Inc.

		-	Reporting		Spike .	Source	•	%REC		RPD	
Apalyte	100	Result	Limit	Units	Lavel	Result	%REC	Limits	RPD	Limit	Notes
· · · · · · · · · · · · · · · · · · ·					····						

Blank (B6D1421-BLK1)	· · ·			Prepared & Analyzed: 04/13/06	
Вепледе	ND .	1.0	μ <b>g/</b> L		×
Bromobenzene	ND	1.0	10		*
Bromochloromethane	ND	1.0	11		
Bromodichloromethane	ND	1.0	ħ	•	
Bromoform	ND	1.0	11		
Bromomethane	ND	5.0	15		
n-Butylbenzene	ND	1.0	0.1		
sec-Burylbenzene	ND	1.0	ır		
tert-Butylbenzene	ND	1.0	U	•	
Carbon tetrachloride	ND	1.0	u		
Chlorobenzene	ND	1.0	#		
Chloroethane	ND	5.0	n	*	
Chioroform	ND	1.0	0	*	
Chioromethane	ND	5.0	7		
2-Chlorotoluene	ND	1.0	P		
4-Chlorotoluene	ND	1.0	'n		
Dibromochloromethane	ND	1.0	м		
1,2-Dibromo-3-chloropropane	ND	5.0	п		
1,2-Dibromoethane (EDB)	ND	1.0	H		- 2
Dibromomethane	ND	1.0	w		
1,2-Dichlorobenzene	ND	1.0	#		
1,3-Dichlorobenzene	ND	1.0	Ħ	+	
1,4-Dichiorobenzene	, ND	1.0	11		
Dichlorodifluoromethane	ND	5.0	11	•	
1,1-Dichloroethane	ND	1.0	п.		
1,2-Dichloroethane	ND	1.0	×	*	
1,1-Dichioroethene	ND	1.0			
cis-1,2-Dichloroethene	ND ·	1.0	н		
trans-1,2-Dichloroethene	ND	1.0	*		
1,2-Dichloropropane	ND	1.0	9 - 8		
1,3-Dichloropropane	ND	1.0	-11		
2,2-Dichloropropane	ND	1.0	*	* *	
1,1-Dichloropropene	ND	1.0	17		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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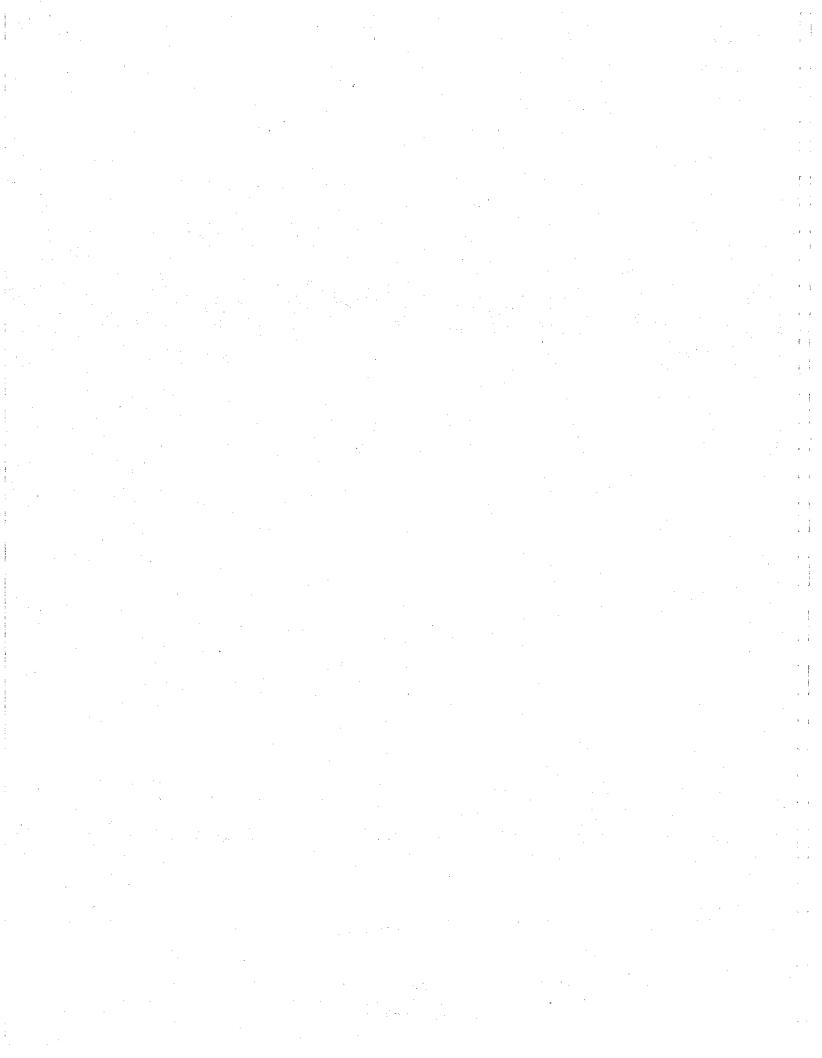
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Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Sierra Analytical Labs, Inc.

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Rosult	%REC	Limits	RPD	Limit	Notes
<u> </u>										

Blank (B6D1421-BLK1)				Prepared & Ana	alyzed: 04/13/	06		
laopropylbenzene	ND	1.0	μg/L			:		
p-Isopropyltoluene	ND	1.0	*	*	•			
Methylene chloride	ND	1.0	H					
Methyl tert-butyl ether	ND.	1.0	11					
Naphthalene	ND	1.0	₩ .	-				
n-Propylbenzene	ND	1.0	ķ1				-	
Styrene	ND	1.0	¥					
1,1,1,2-Tetrachloroethane	ND	1.0	п					
1,1,2,2-Tetrachioroethane	ND	1.0	4					
Tetrachloroethene	ND	1.0						***
Tolueue	ND	1.0	- 0					
1,2,3-Trichlorohenzene	ND	1.0	16					
1,2,4-Trichlorobenzene	ND	1,0	łı	4				
1,1,1-Trichloroethane	ND	1.0	11		-			
1,1,2-Trichlorocthane	ND	1.0	Ħ					
Trichloroethene	ND	1.0	ĸ					
Trichlorofluoromethane	ND	5.0	11					
1,2,3-Trichloropropane	ND	5.0						
1,2,4-Trimethylbenzene	ND	1.0	Ħ					
1,3,5-Trimethylbenzene	ND	1.0	н					
Vinyl chloride	ND	5.0	H					
m,p-Xylene	ND	1.0	н					
o-Xylene	ND	1.0	*					
Surrogate: Dibromofluoromethane	51.2		fi	50.0	102	86-118		
Surrogate: Toluene-d8	49.7		ft	50.0	99.4	88-110		
Surrogate: 4-Bromofluorobenzene	49.3		rį	50.0	98.6	86-115		
LCS (B6D1421-BS1)				Prepared & An	alyzed: 04/13	/06		
Велиеле	59.4	1,0	μg/L	50.0	119	80-120	<del></del>	
Chlorobenzene	56.8	1,0	11	50.0	114	80-120		
1,1-Dichloroethene	53.6	1.0	Į1	50.0	107	80-120		
Toluene	58.3	1.0	11	50.0	117.	80-120		
Trichloroethene	54.4	1.0	19	50.0	109	80-120		

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5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

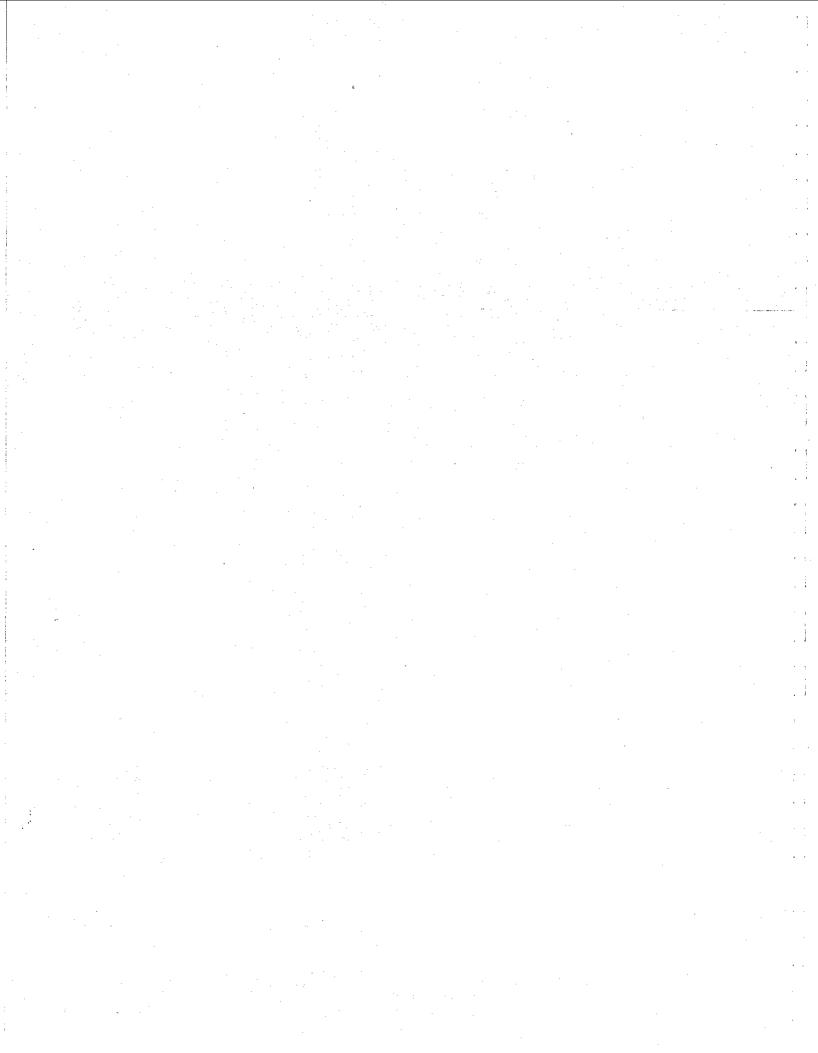
Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

#### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%rec	%REC Limits	RPD	RPD L <del>i</del> mit	Notes
Batch B6D1421 - EPA 5030B P & T		*	+	*						
Matrix Spike (B6D1421-MS1)	Sot	ırce: 060425	5-07	Prepared	& Analyz	ed: 04/13/	06			
Benzene	50.4	1.0	μg/L	50.0	ND	101	37-151			
Chlorobenzene	48.8	1.0	*	50.0	ND	97.6	37-160			
1,I-Dichloroethene	43.8	1.0	*	50.0	ND	87.6	50-150			
Toluene	49.3	1.0	*	50,0	ND	98.6	47-150			
Trichloroethene	45.4	1.0	10	50.0	ND	90.8	71-157			
Matrix Spike Dup (B6D1421-MSD1)	Sou	urce: 060425	5-07	Prepared	& Analyz	ed: 04/13/	06			
Banzene	50.8	1.0	μg/L	50,0	ND	102	37-151	0.791	30	
Chlorobenzene	49.1	1.0	11	50.0	ND	98,2	37-160	0.613	30	
1,1-Dichloroethene	43.7	1.0	н	50.0	ND	87.4	50-150	0.229	30	
Toluene	49.2	1.0	0	50.0	ND	98.4	47-150	0.203	30	
Trichloroethene	45.8	1.0	H.	50.0	ND	91.6	71-157	0.877	30	





5455 Garden Grove Blvd. Suite 200

Wesuminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

#### **Notes and Definitions**

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS

recovery.

S-03 Surrogate diluted out.

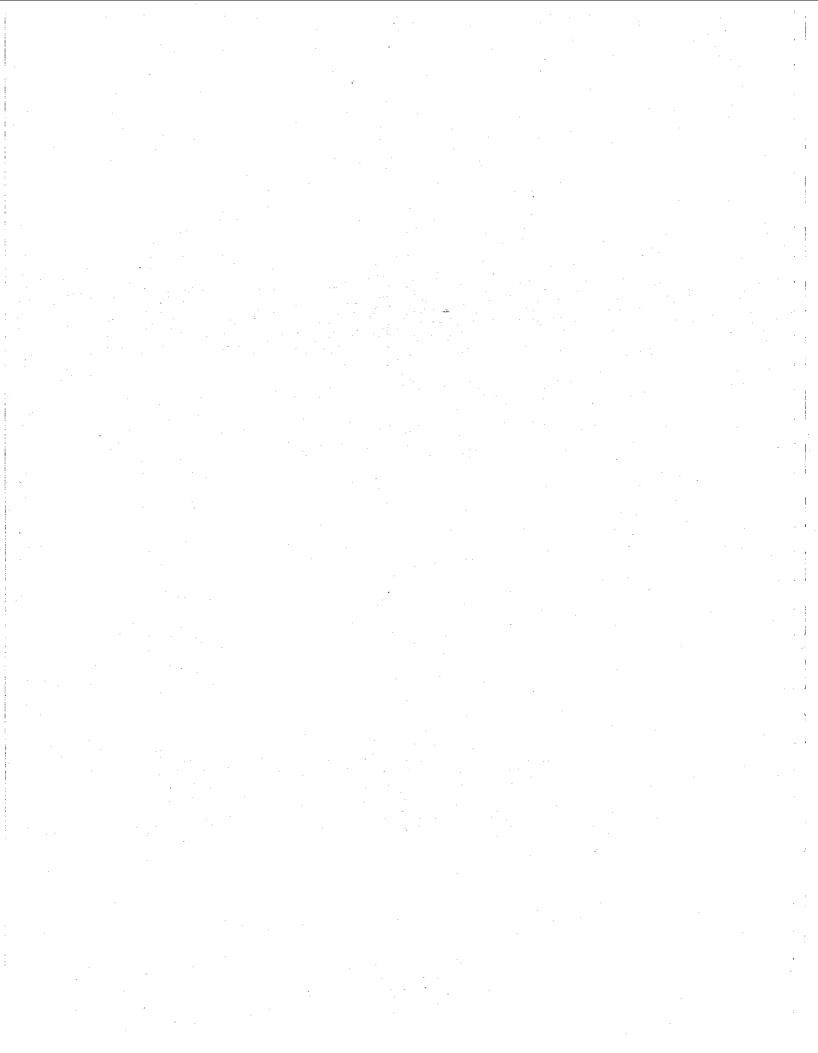
DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference





5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/25/06 09:38

#### Notes and Definitions

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS

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S-03 Surrogate diluted out.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

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### CHAIN OF CUSTODY RECORD



SIERRA ANALYTICAL

TEL: 949•348•9389

FAX: 949•348•9115 26052 Merit Circle• Suite 105•Laguna Hills, CA•92653

Client: Worky Parsons Ke Client Address: 5455 Garden	Flore B	Chi	ent Project ID:						Analysis I	Request	ed		Geotracker EDD Info:
westminster, CA 92683	5	A	RC 1 H	02870	<u>-</u>		240	82					
			arn Around		24 Heur 72 Heur	SS		200				ļ	Client LOGCODE
Client Tel. No.: 714 - 374- 115	7			_	5 Day	~	carba	15					
Client Fax. No.: 714-379-116 Client Proj. Mgr.: 22 Pagrach	0				Mobile	100	Ca	-					Site Global ID
- Seria 1	Date Tim	e Matrix	Preservative	Container Type	No. of Containers	8260B	刊山上	CAM		-			Field Point Names/ Comments
TB-412000 60041	12/06	W	HCL	1/04	3	X							
MW-1	10:1	5 GW	1tc 4116	poly trad	6	X	X	X					
MW-2 63.	list.		HCL WOLF	100 T 14,	Ğ	V	X	X					
	13:1	5 Giv		1	6	X	X	X					
MW-3 E43	1410	GW		Y	Co.	Y	*	Y					
FB-411206 166	l'a	on			6	X	×	X					
EB-41206	1:2	5 10	V	V	Co	Y	Y	X					
												•	
D Sampler Signature: & I Pany Selle		Shipped Viz	<u></u>				<u> </u>	Δ	Total Numb	er of Con	tainers Su	bmitted to	Sample Disposal:
Printed Name: Let Va Nochi		(CarAst/Waybill N					5	7	Laboratory				Return to Client
	4112be	TIMAN	VVIV	N	也必				s and the signature on the analysis speci				Lab Disposal*
		Company: 5	rever	×	13m20	Condi	tions, u	nless other	wise agreed upon in to be hazardous by:	writing betw	een STERKA	and CLIENT.	Archive mos.
A G AI	111- 116	Received By	dolar	XXV	4-120	6			Total Numi	ber of Co	ntainers :	Received	Other
Company: JURRIA	19:00	Company:	Siema		19:00				by Laborat	ory			
4	Date	Received By:	(		Date;	40	ξĽΛΊ	BORAT	ORY USE ON	Y Sami	de Recei	ol Cunditio	isse Cos
	Time:	Company:			Tome:	Z.	data		-		ciaris (3)	inp-( C3;	
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27 April 2006

Lee Paprocki Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200 Westminster, CA 92683

RE:APC

Work Order No.:

0604332



Attached are the results of the analyses for samples received by the laboratory on 04/17/06 17:00.

The samples were received by Sierra Analytical Labs, Inc. with a chain of custody record attached or completed at the submittal of the samples.

The analyses were performed according to the prescribed method as outlined by EPA, Standard Methods, and A.S.T.M.

The remaining portions of the samples will be disposed of within 30 days from the date of this report. If you require any additional retaining time, piease advise us.

Sincerely,

Richard K. Forsyth

Lichard & Faronte

Laboratory Director

Sierra Analytical Labs, Inc. is certified by the California Department of Health Services (DOFIS), Environmental Laboratory Accredidation Program (ELAP) No. 2320.



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

### Metals by EPA 6000/7000 Series Methods

Analyte	Result	porting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B49-41706-3-7 (0604332-03) Soil	Sampled: 04/17/06 10:12	Receiv	ved: 04/1	7/06 17:00		-			
Silver	ND	0.80	mg/kg	i	B6D2113	04/21/06	04/24/06	EPA 6010B	- 1
Arsenic	16	1.7	hi	n -	*	11	"	· • • • • • • • • • • • • • • • • • • •	
Barium	180	3.3	u			11	п	Ħ	
Beryllium	ND	0.75	11	*	P	14		•	
Cadmium	ND	0.51	11	r;	TT.	Н	*	H	,
Cobalt	14	2.2	Ħ	п	ţı .	н	,,	n	,
Chromium	33	0.98	- n	77	#	P	II.	u u	
Hexavalent Chromium	0.28	0.24	h	H	B6D2416	04/24/06	04/25/05	EPA 7199A	
Copper	37	2.2		r	B6D2113	04/21/06	04/24/06	EPA 6010B	
Mercury	ND .	0.18		n	B6D2116	04/21/06	04/24/06	EPA 7471A	•
Molybdenum	ND	1.7	• .	11	B6D2113	04/21/06	04/24/06	EPA 6010B	
Nickel	24	0.79	π		11	Ħ	M		
Lead	6.3	1.3	•	H .	ĮI.	7	11	· ·	
Antimony	ND	1.6	1	6	n	u	18	**	
Selenium	ND	1.9	*	11	ч	п	74	т.	
Thallium	ND	1.5	#	19	11	*		11	
Vanadium	54	0.73	**	Ħ	и	' tr	91	Ur.	4.)
Zinc	63	1.3	п	397	3)1	u	11	15	*
FB-41706 (0604332-04) Water 5	Sampled: 04/17/06 08:45	Receive	d- 04/17/	06 17:00					
			T. CALTI	00 Y 1 100					
Silver		0.0030		1	B6D2409	04/24/06	04/25/06	EPA 6010B	
Silver Arsenic			mg/L		B6D2409	04/24/06	04/25/06	EPA 6010B	
	ND (	0.0030	mg/L	1			04/25/06 *	EPA 6010B	
Arsenic	ND ( ND ND	0.0030 0.025	m <b>g/</b> L	<u>1</u>	0	ı	Ħ	*	
Arsenic Barium	ND ( ND ND	0.0030 0.025 0.019	m <b>g/</b> L	1 H	10	II N	Pt 194	rt If	*
Arsenic Barium Beryllium	ND ND ND ND	0.0030 0.025 0.019 0.0090	mg/L u n	1 H	11 14	11 11	16 16 17	19 19	*
Arsenic Barium Beryllium Cadmium	ND ND ND ND ND	0.0030 0.025 0.019 0.0090 0.0040	mg/L u n r	1 H W	1) 14 16	11 11 12	(† 14 17	rt 17 fs	*
Arsenic Barium Beryllium Cadmium Cobalt	ND ND ND ND ND ND	0.0030 0.025 0.019 0.0090 0.0040 0.0060	mg/L n n n	1 H **	1) 14 16	11 11 17 18	75 16 17 18	rt 17 fs	*
Arsenic Barium Beryllium Cadmium Cobalt Chromium Hexavalent Chromium	ND ND ND ND ND ND ND ND ND	0.0030 0.025 0.019 0.0090 0.0040 0.0060 0.0060 0.0020	mg/L n n n n	11 H **	1) 14 16 17	11 11 12 13 14	" " " " 04/17/06	rt 17 fa 11	*
Arsenic Barium Beryllium Cadmium Cobalt Chromium	ND ND ND ND ND ND ND ND ND ND ND ND	0.0030 0.025 0.019 0.0090 0.0040 0.0060 0.0060	mg/L n n n n	1 H W W W W W W W W W W W W W W W W W W	" " " " B6D2408	04/17/06	16 16 17 18 18	* " " EPA 7199	*
Arsenic Barium Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury	ND ND ND ND ND ND ND ND ND ND ND ND ND N	0.0030 0.025 0.019 0.0090 0.0040 0.0060 0.0060 0.0020 0.012	mg/L	1 N W W W W W W W W W W W W W W W W W W	B6D2408 B6D2409 B6D1920	04/17/06 04/24/06 04/19/06	04/17/06 04/25/06 04/19/06	EPA 7199 EPA 6010B EPA 7470A	*
Arsenic Barium Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury Moiybdenum	ND ND ND ND ND ND ND ND ND ND ND ND ND N	0.0030 0.025 0.019 0.0090 0.0040 0.0060 0.0060 0.0020 0.012 .00073 0.028	mg/L	1 N N N N N N N N N N N N N N N N N N N	B6D2408 B6D2409	04/17/06 04/24/06	04/17/06 04/25/06	FPA 7199 EPA 6010B	*
Arsenic Barium Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury	ND ND ND ND ND ND ND ND ND ND ND ND ND N	0.0030 0.025 0.019 0.0090 0.0040 0.0060 0.0060 0.0020 0.012 0.0073 0.028 0.010	mg/L	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	B6D2408 B6D2409 B6D1920 B6D2409	04/17/06 04/24/06 04/19/06	04/17/06 04/25/06 04/25/06 04/25/06	EPA 7199 EPA 6010B EPA 7470A EPA 6010B	*
Arsenic Barium Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury Moiybdenum Nickel Lead	ND ND ND ND ND ND ND ND ND ND ND ND ND N	0.0030 0.025 0.019 0.0090 0.0040 0.0060 0.0020 0.012 0.0073 0.028 0.010	mg/L  II  II  II  II  II  II  II  II  II	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	B6D2408 B6D2409 B6D1920 B6D2409	04/17/06 04/24/06 04/19/06 04/24/06	04/17/06 04/25/06 04/25/06 04/25/06	EPA 7199 EPA 6010B EPA 7470A EPA 6010B	*
Arsenic Barium Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury Moiybdenum Nickel Lead Antimony	ND ND ND ND ND ND ND ND ND ND ND ND ND N	0.0030 0.025 0.019 0.0090 0.0040 0.0060 0.0060 0.0020 0.012 0.0073 0.028 0.019 0.023	mg/L 11 18 10 10 10 10 10 10 10 10 10 10 10 10 10	11 11 11 11 11 11 11 11 11 11 11 11 11	B6D2408 B6D2409 B6D1920 B6D2409	04/17/06 04/24/06 04/19/06 04/24/06	04/17/06 04/25/06 04/19/06 04/25/06	EPA 7199 EPA 6010B EPA 6010B	*
Arsenic Barium Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury Moiybdemum Nickel Lead Antimony Selenium	ND ND ND ND ND ND ND ND ND ND ND ND ND N	0.0030 0.025 0.019 0.0090 0.0040 0.0060 0.0060 0.0020 0.012 0.0073 0.028 0.010 0.019 0.023		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	B6D2408 B6D2409 B6D1920 B6D2409	04/17/06 04/24/06 04/24/06 04/24/06	04/17/06 04/25/06 04/25/06 04/25/06	EPA 7199 EPA 6010B EPA 6010B	*
Arsenic Barium Beryllium Cadmium Cobalt Chromium Hexavalent Chromium Copper Mercury Moiybdenum Nickel Lead Antimony	ND ND ND ND ND ND ND ND ND ND ND ND ND N	0.0030 0.025 0.019 0.0090 0.0040 0.0060 0.0060 0.0020 0.012 0.0073 0.028 0.019 0.023		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	B6D2408 B6D2409 B6D1920 B6D2409	04/17/06 04/24/06 04/24/06 04/24/06	04/17/06 04/25/06 04/25/06 04/25/06	EPA 7199 EPA 6010B EPA 6010B	*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reparted: 04/27/06 12:55

#### Metals by EPA 6000/7000 Series Methods

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
EB-41706 (0604332-06) Water	Sampled: 04/17/06 10:30	Received	d: 04/17/	06 17:00					
Silver	ND	0.0030	mg/L	1	B6D2409	04/24/06	04/25/06	EPA 6010B	
Arsenic	ND	0.025	T T	. 11	•	·N	04/25/06		*
Barium	ND	0.019	77	11	19	Ħ	04/25/06	n	*
Beryllium	ND	0.0090	79	11	ft.	N	Ħ	п	
Cadmium	ND	0.0040	77	41	н	H	04/25/06	, r	-
Cobalt	ND	0.0060	Ħ	41	ú	Щ.	н	"	
Chromium	ND	0.0060	11	ır	n n	Ħ	Ħ	Н	
Hexavalent Chromium	ND	0.0020	Н	0	H6D2408	04/17/06	04/17/06	EPA 7199	
Copper	ND	0.012	ú	U	B6D2409	04/24/06	04/25/06	EPA 6010B	
Mercury	ND	0.00073	0	"	B6D1920	04/19/06	04/19/06	EPA 7470A	
Molybdenum	ND	0.028	n	U	B6D2409	04/24/06	04/25/06	EPA 6010B	
Nickel	ND	0.010	Ħ		0	, b		" .	
Lead	ND	0.019	PF	Œ	II .	Ħ	म	- H	
Antimony	ND	0.023	P	ш	th (x)	Ħ	Ħ ;	II	
Solenium	ND	0.026	₩	ţ1	=	u	Ħ	н .	
Thallium	ND	0.011	× #	н		II .	11	- H	
Vanadium	ND	0.012	*	Ħ		u	04/25/06	N ÷	
Zine	ND	0.024	п	**	U	ti	04/25/06	*	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

# Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID

		Tella VI	шупси	I LHDS, I	nc.				-
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B49-41706-1-1 (0604332-01) Soll	Sampled: 04/17/06 09:	55 Recei	yed: 04/1	7/06 17:00		-			
HC < C8	ND	1.0	mg/kg	1	B6D2709	04/25/06	04/25/06	EPA 8015B	
C8 <- HC < C9	ND	1.0	77	; II		11	tu .	n	
C9 <= HC < C10	ND	1.0	77	II .	U	11	19	И	
C10 <= HC < C11	ND	1.0	**	, "	. 11	11	9.	н	
C11 <= HC < C12	ND	1.0	n	"	II .	ų	u	л	
C12 ← HC < C14	ND	1.0	Ħ	- 11	h	II .	<u>⊕</u> 11	я	
C14 <= HC < C16	ND	1.0	*1		H	Ħ	11.1	#	
C16 <= HC < C18	ND	1.0	11	ц	n	FI .	H	#	
C18 <= HC < C20	ND	1.0	4)	h	U	N	n	#	
C20 <= HC < C24	ND	1.0	0.0	н	11	N	п	#	
C24 <= HC < C28	ND	1.0	n	п	ıı		н	ग	
C28 <= HC < C32	ND	1.0	Ĥ.	₩	u u	m	II	Ħ	
HC >= C32	ND -	1,0	н	Ħ	1)	,,	li .	tr .	
Total Petroleum Hydrocarbons (C7-C36)	ND	5.0	P	**************************************	11	er	ıl	Ħ	
Surrogate: o-Terphenyl	(1)	87.0 %	60	-175	n	7	4	fr fr	
B49-41706-2-4 (0604332-02) Soll	Sampled: 04/17/06 10:	05 Recei	ved: 04/2	17/06 17:00	)				
HC < C8	ND	1.0	mg/kg	<u> </u>	B6D2709	04/25/06	04/25/06	EPA 8015B	
C8 <= HC < C9	ND	1.0	h	ı	0	ıı	W	н	
C9 <= HC < C10	ND	1.0	н	п	II.	u	V	п	
C10 <= HC < C11	ND	1.0	11.	IF	(1	41	Ħ	11	
011 - 770 - 010	3.77%	1.0							

HC < C8	ND	1.0	mg/kg	1	B6D2709	04/25/06	04/25/06	EPA 8015B			
C8 <= HC < C9	ND	1.0	h	ı	ti .	11	v	н			
C9 <= HC < C10	ND	1.0	н	II	11	u	v	П			
C10 <= HC < C11	ND	1.0	11.	IF.	(1	ч	9	11			
C11 <= HC < C12	ND	1.0	11	u	a	Ħ	11	п			
C12 <= HC < C14	ND	1.0	- 21	н	Ħ	н	ų.	N			
C14 <= HC < C16	ND	1.0	lt.	#	n	Ħ	11	и			
C16 <= HC < C18	ND	1,0	th E	i fr	U	ht	11	N			
C18 <= HC < C20	4.9	1.0	JI .	#	W	ĮI.	N				
C20 <= HC < C24	17	1.0	tr .	19	п	II-	1	н			
C24 <= HC < C28	62	1.0	tr .	*	₩	11	11				
C28 <= HC < C32	81	1.0	17	97	*	IJ	lı				
HC >= C32	4.6	1.0		11	11	n	Ħ	*			
Total Petroleum Hydrocarbons	170	5.0	n	11	11	1!	η	n			
(C7-C36)											
Surragate: o-Terphenyl		90.6 %	60-1	75	*	11	п	п			



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Surrogate: o-Terphenyl

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki Reported: 04/27/06 12:55

## Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID Sierra Analytical Labs, Inc.

Analyte	. Result	eporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
B49-41706-3-7 (0604332-03) Soil	Sampled: 04/17/06 10:12	Recei	ved: 04/1	7/06 17:00	)		-		
HC < C8	ND	1.0	mg/kg	1	B6D2709	04/25/06	04/25/06	EPA 8015B	
C8 <= HC < C9	ND	1.0	71	U	n	11	1r	TI	
C9 <= HC < C10	ND	1.0	d o	N .	u	н		9	
C10 <= HC < C11	. ND	1.0	н	n	h	II	•	47	
C11 <= HC < C12	ND	1.0	h	11	и	1/	N	II .	
C12 <= HC < C14	ND	1.0	n	И	т.	11	н	h	
C14 <= HC < C16	ND	1,0	91	v	17		II.	п	
C16 <= HC < C18	ND	1.0	Ti .	11	11*	R T	0	н	
C18 <= HC < C20	ND	1.0	*1	1!	11		ø,		
C20 <= HC < C24	ND	1.0	Ħ	11	11	- N	er	10	
C24 <= HC < C28	ND	1.0	v		R	П	B†	Ħ	
C28 <= HC < C32	ND	1.0	U	H		•	fr		*
HC >= C32	ND	1.0	4	ΙŦ	If	11	¥	. #	
Total Petroleum Hydrocarbons (C7-C36)	ND	5.0	ŧ	И	н .	п	#		×.
Surrogate: o-Terphenyl		91.4%	60-	175	ıı .	n	#	n	
FB-41706 (0604332-04) Water 8	Sampled: 04/17/06 08:45	Receive	d: 04/17/	6 17:00					
HC < C8	ND	0.010	m <b>e</b> /L	1	B6D2420	04/24/06	04/25/06	EPA 8015B	
C8 <= HC < C9	ND	0.010	u	н	P	15	10	II .	
C9 <= HC < C10	ND	0.010	п	н	W	11	n.	n	
C10 <= HC < C11	ND	0.010	ji	н	18	11	U -	h	
C11 <= HC < C12	ND	0.010	*	11	44	u	ti.	11	
C12 <= HC < C14	ND	0,010	19	ч	ÿi.	II .	U	14	
C14 <= HC < C16	ND	0.010	77	"	ч	И	n	11	
C16 ← HC < C18	ND	0.010	π *		11	Ħ	U	11	
C18 <= HC < C20	ND	0.010	11	"	n	н	#	n	
C20 <= HC < C24	ND	0.010	q	H	rr	N	#	II	
C24 <= HC < C28	ND	0.010	11	Ħ	11	U	₩.	н	
C28 <= HC < C32	ND	0.010	ц	H	.0	п	*	DF:	
HC >= C32	ND	0.010	ır	tr.	11	į,	*	स	
Total Petroleum Hydrocarbons (C7-C36)	ND	0.050	p)	ш	1f	n	11	н	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

102 %

60-175



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

## Total Petroleum Hydrocarbons Carbon Range Analysis by GC-FID Sierra Analytical Labs, Inc.

9									
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
EB-41706 (0604332-06) Water	Sampled: 04/17/06 10:30	Receive	d: 04/17/	06 17:00	-				
HC < C8	ND	0.010	mg/L	1	B6D2420	04/24/06	04/25/06	EPA 8015B	*
C8 <= HC < C9	ND	0.010	7	l)	fi fi	u į	u	II.	*
C9 ← HC < C10	ND	0.010	* **	N	ø	0 :	* 4	9	
C10 <= HC < C11	ND	0.010	11	B	U	11	11	ņ	
C11 <= HC < C12	ND	0.010	W.	¥	п	19	- 11	₩	
C12 <= HC < C14	ND	0,010	n n		N		11	a	
C14 <= HC < C16	ND	0.010	N.	, ° tr	ħ	H_	17	Ħ	
C16 <= HC < C18	ND	0.010	17	u	π		II.		
C18 <= HC < C20	ND.	0.010	17	**	h	, n	D)	h <sub>ix</sub>	
C20 <= HC < C24	ND	0.010	11	7	н 💮	н	ĮI.	म	
C24 <= HC < C28	ND	0.010	11	1	Ħ	п	N	я	130
C28 <= HC < C32	ND	0.010	10	И	9	17	* w	11	-
HC >= C32	ND	0.010	N+	F	76	U.	w .	ч	
Total Petroleum Hydrocarbons (C7-C36)	ND	0.050	•	Tr.	. 11		π	υ	
Surrogate: o-Terphenyl		92.3 %	60-	-175	"	11		"	01.55



5455 Garden Grove Blyd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

## Volatile Organic Compounds by EPA Method 8260B

## Sierra Analytical Labs, Inc.

	Re	porting					7 10		
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
B49-41706-1-1 (0604332-01) Soil	Sampled: 04/17/06 09:55	Recei	ved: 04/1	17/06 17:00					
Benzene	ND	5.0	μ <b>g/kg</b>	1	B6D1927	04/18/06	04/18/06	EPA 8260B	-
Bromobenzene	ND	5.0	0-	*	b	п.	п	*	
Bromochloromethane	ND	5.0	U	т н	1	ı	п	7	
Bromodichloromethane	ND	5.0	U		п	U U	16.	π	
Bromoform	ND	5.0	- p	м	14		11	#	
Bromomethane	ND	5.0	R	* -	т	#	Tr.		
n-Butylbenzene	ND	5.0	*	ų li	0	W	Ħ	N	
sec-Butylbenzene	ND	5.0	w 1	N	v	*	r r	u	
tert-Butylbenzene	ND	5.0	п	п	47	×	•	и	
Carbon tetrachloride	ND	5.0	-	þ	п	*	п	n.	
Chlorobenzene	ND	5.0		ĮI.	N	9	41	μ	
Chloroethanc	ND	5.0	п	11	N	9	4	Į <b>i</b>	
Chloroform	ND	5.0	9	11	n	ų.	1)	Ot .	×
Chloromethane	ND	5.0		. 11	II	y	Ħ	11 -	
2-Chlorotoluene	ND	5.0	11	in	u	0.1	н _		
4-Chlorotoluene	ND	5.0	JI.	-11	tı	0.0	it.	N .	÷
Dibromochloromethane	ND	5.0	н .	n	h	H	н	#	÷
1,2-Dibromo-3-chloropropane	ND	5.0	н	* -	H	30		į .	
1,2-Dibromoethane (EDB)	ND	5.0	11	₩	π	u u	14	#	
Dibromomethane	ND	5.0	II.	#		Ų	19	Ħ	
1,2-Dichlorobenzene	ND	5.0	18	*	w	ų	и	4	
1,3-Dichlorobenzene	ND	5.0	17	*	*	· ·	11	п	
1,4-Dichlorobenzene	ND	5.0	n	ч	11	¥	n	ŋ	
Dichlorodifluoromethane	ND	5.0	*	n	11	п	я	N	
1,1-Dichloroethane	ND	5.0			41	w	P	п	
1,2-Dichloroethane	ND	5.0	R	u	11	₩	R	99	
1,1-Dichloroethene	ND	5.0	₩	и	H	79	N.:	IHC.	
cis-1,2-Dichloroethene	ND	5.0	×	11	n	,	11	и	
trans-1,2-Dichloroethene	ND	5.0	7	11	- 11	#	н	11	
1,2-Dichloropropane	ND	5.0	7	W.	0.	TI.		11	
1,3-Dichloropropane	ND	5.0	u	ų.	H	11		v	
2,2-Dichloropropane	ND	5.0	lu .	"	"	11	п	п	
1,1-Dichloropropene	ND	5.0	q	u	п	11	"	H	
cis-1,3-Dichloropropene	ND	5.0	н	ĮI.	ц	(1	n	II	
trans-1,3-Dichloropropene	ND	5.0	el e		11	ĮI.	T	*	
Ethylbenzene	ND	5.0	rt.	. **	ŧ	ш	14	*	
Hexachlorobutadiene	ND	5.0	n		п	h	1)	*	
Isopropylbenzene	ND	5.0	н	**	19	н	79	П	
p-Isopropyltolucae	ND	5.0	U	*	¥1	11		•	
p-rsopropyroudene Methylene chloride	ND	5.0	, p	π	**	u u	1(	9	
Methyl tort-butyl ether	ND	5.0		н	,		11	u U	



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC
Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

# Volatile Organic Compounds by EPA Method 8260B

#### Sierra Analytical Labs, Inc.

r delta	de la		porting	****	D0 41	D	District 1	- 4	24-1-1	***
Analyte		Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
B49-41706-1-1 (0604332-01) Soil	Sampled:	04/17/06 09:55	Recei	ved: 04/1	7/06 17:00			4 1		
Naphthalene		ND	5.0	μg/kg	1	B6D1927	04/18/06	04/18/06	EPA 8260B	
n-Propylbenzene		ND	5.0	H ×	11	11	11	li .	ñ,	
Styrene		ND	5.0	11	Ħ	#	U	U	Pf	
1,1,1,2-Tetrachloroethane		ND	5.0	н	₩		ij	н		
1,1,2,2-Tetrachloroethane		ND	5.0	· pr	Ħ		М	=	. 9 0	
Tetrachloroethene	0	64	5.0	n	* 4	ď	•	#	"	
Toluene		ND	5.0	u	ħ	₩	47	n	₩	
1,2,3-Trichiorobenzene		ND	5.0	11	71	R	ч		₩	
1,2,4-Trichlorobenzene		ND *	5.0		П	rt	4	н .		
1,1,1-Trichloroethane		ND	5.0	. F	₩	11	F	•	11	
1,1,2-Trichloroethane		ND	5.0	- 11	11	11	7	11	11	
Trichloroethene		7.9	5.0	n	li.	R'	11	n	. н	
Trichlorofluoromethane		ND	5,0	10 T	10	or or	11	11	- т	*
1,2,3-Trichloropropane		ND	5,0	₩	n	ń	11	11	II	
1,2,4-Trimethylhenzene		ND	5.0	u	11	11	IT	11	**	
1,3,5-Trimethylbenzene		ND	5.0	*	D	n.	n	0	π.	
Vinyl chloride	*	ND	5.0	7 -	р.	0	10	u .	¥	
m,p-Xylene		ND	5.0	п		и	*	17 2,	<del>7</del> = , π	
o-Xylene		ND	5.0	U		IP	l1	N	11	
Surrogate: Dibromofluoromethane		Contract of Contract	117%	80-	120	"	P	"	#	-
Surrogate: Toluene-d8			103%		117	u	#	H	st	
Surrogate: 4-Bromofluorobenzene			101%		-121	N	"	n	11	
B49-41706-2-4 (0604332-02) Soil	Sampled:	04/17/06 10:05	Recei	ived: 04/1	7/06 17:00	)				*
Benzene		ND	5.0	μ <b>g/k</b> g	1	B6D1927	04/18/06	04/18/06	EPA 8260B	
Bromobenzene		ND	5.0	- 1	н	Ħ	n	u		
Bromochloromethane		ND	5.0	*	- 17	H	11	\u	*	
Bromodichloromethane		ND	5.0	n	н	#	a	te .	₩	
Bromoform		ND	5.0	11	ıı.	17	r	11 *	п	
Bromomethane		ND	5.0	**	11	p ·	h	it	ц	
n-Butylbenzene		ND	5.0	*	lı	Ħ	11	u	*	
sec-Butylbenzene		ND	5.0		n	AC.	. *	11	17	
tert-Butylbenzene		ND	5.0	u	ч	17	78	Po	u	
Carbon tetrachloride		ND	5.0	11	U	1£	IJ	н	u	
Chlorobenzene	*	ND	5.0	11	77	н	11	P	11	
Chloroethane		ND	5.0	n ·	h		19	II	11	
Chloroform		ND	5.0	н	n	rţ	11	"	0	
Chloromethane		ND	5.0	D.		v	н	Ħ	H	
2-Chlorotoluene		ND	5.0		ч	11	U	•	n.	
4-Chlorotoluene		ND	5.0	н	*		ĮI.	**	II.	
Dibromochloromethane		ND				,,	ø	h		
PROTOMOCHIOTOMICHISTIC		MD	5.0	.,	-		-			



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki Reported: 04/27/06 12:55

## Volatile Organic Compounds by EPA Method 8260B

## Sierra Analytical Labs, Inc.

Analyte	Result	porting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method		Notes
	110					Lichared	nualyzeu	Methon		Note
B49-41706-2-4 (0604332-02) Soil	Sampled: 04/17/06 10:05	Recei	ved: 04/1	7/06 17:00				×	,	
I,2-Dibromo-3-chloropropane	ND	5.0	μg/kg	. 1	B6D1927	04/18/06	04/18/06	EPA 8260B		
1,2-Dibromoethane (EDB)	ND	5.0	п.	U	*	IJ	ч	u.		
Dibromomethane	ND ·	5.0		"	*	H	, ч	P .		
1,2-Dichlorobenzene	ND	5.0	u	"	- #	II	4	ų.		
1,3-Dichlorobenzene	ND	5.0	U	u	*	п	11	ŧř	-	
1,4-Dichlorobenzene	ND	5.0	. 0	U	¥	п	11	*		
Dichlorodifluoromethane	ND	5.0	п	n	91	11		n		-
1,1-Dichloroethane	ND	5.0	Ħ	n	T	11		π		
1,2-Dichloroethane	ND	5.0	H	Ħ	Ħ	7		41		
1,1-Dichloroethene	ND	5.0	н	U .	*	Ħ	н	ч		
cis-1,2-Dichloroethene	ND	5.0	ė	n	71	7		4		
trans-1,2-Dichloroethene	ND	5.0	*	h	¥	#	4	N.		
1,2-Dichloropropane	ND	5.0	- 11	**	γ В	N	H	. 41	. 4	
1,3-Dichloropropane	ND	5.0	<b>1</b>	н	11	<b>π</b> :;;	W	* 4		
2,2-Dichloropropane	ND	5.0	1)	11	8 m	110	*	н		
1,1-Dichloropropene	ND	5.0	11	**	Ħ	11	и	н -		
cis-1,3-Dichloropropene	ND	5.0	- 11	11	Ħ	11	<b>#</b>			
trans-1,3-Dichloropropene	ND	5.0	.11	11		lt	It			
Ethylbenzene	ND	5.0	11	II.	H	11	n	н		
Hexachlorobutadieno	ND	5.0	10	11	u	11	m			
Isopropylbenzene	ND	5.0	11	ĮI.		ñ	U			
p-Isopropyltoluene	ND	5.0	n	IJ	Pr.	0	et			
Methylene chloride	ND	5.0		н	#	п	100	1		
Methyl tert-butyl ether	ND	5,0	п		*		II.	* #		
Naphthalene	ND	5.0	q	a	π	11	n	и		
n-Propylbenzene	ND	5.0		. 0	#	7	n			
Styrene	· ND	5.0	**	a	11	*	h	ফ		
1,1,1,2-Tetrachloroethane	ND	5.0		ú	n	7	,,	H.		
1,1,2,2-Tetrachloroethane	ND	5.0	*	#	1)	*	,,	- и		
Tetrachioroethene	6.2	5.0		#	п		и			
Toluene	ND	5.0	11		ht	7	٠	ls.		
1,2,3-Trichlorobenzene	L Control	5.0	,,		H			н		
1,2,4-Trichlorobenzene	ND ND	5.0	11	11	"	7		Н		
1,1,1-Trichloroethane	ND ND	5.0	11	"	er -	7		li		
1,1,2-Trichloroethane	ND	5.0	11	11	#					
Trichloroethene	ND	5.0	11			 N				
			11	. 10	"	11				
Trichlorofluoromethane	ND	5.0	ñ	н .	"	11	r	н		
1,2,3-Trichloropropane	ND	5.0	n	H	17	11	* . "	<u> </u>		
1,2,4-Trimethylbenzene	ND	5.0	ii ii		17 Ti	"	ग	π -		
1,3,5-Trimethylbeuzene	ND	5.0		((		-				
Vinyl chloride	ND	5.0	ri ri	u	н		II.	Ħ		



Westminster CA, 92683

Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200 Project APC
Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

# Volatile Organic Compounds by EPA Method 8260B

## Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prevared	Analyzed	Method	Notes
						1140000			
B49-41706-2-4 (0604332-02) Soil				7/00 17:00					
m,p-Xylene	ND	5.0	μg/kg	1 P = 30	B6D1927	04/18/06	04/18/06	EPA 8260B	
o-Xylene	ND	5.0							
Surrogate: Dibromofluoromethane		119 %		120	"		H	,,	
Surrogate: Toluene-d8	*	103 %		117	"	r r		<i>er</i>	
Surrogate: 4-Bromofluorobenzene	*	101 %	74-	121	Ħ	17	#	н	
B49-41706-3-7 (0604332-03) Soll	Sampled: 04/17/06 10:	12 Recei	ved: 04/1	7/06 17:00	•				
Benzene	ND	5.0	μg/kg	1	B6D1927	04/18/06	04/19/06	EPA 8260B	ē
Bromobenzene	ND	5.0	Ú	n	h	11	0	17	-
Bromochloromethane	ND	5.0	rr	Ħ	I)	n	u		
Bromodichloromethane	ND	5.0	N.	H	н	н	u	19	
Bromoform	ND	5.0	) r	. п	u	n	9	n	
Bromomethane	ND	5.0	er .	*	U	N .	* #		5 0
n-Butylbenzene	ND	5.0	u u	**	II .	4	· H	0	
sec-Butylbenzene	ND	5.0	77	ú	u	₩	11	11	
tert-Butylbenzene	ND	5.0	*	ii ii	u	W	₹1	1 1	
Carbon tetrachloride	ND	5.0	11			*	11	ч	
Chlorobenzene	ND	5.0	*	P +	u	*	-tr	n .	
Chlorocthane	ND	5.0	II	Ú.	u	₩	¥	i i	
Chloroform	ND	5.0	h	p	11	*	If	40	
Chloromethane	ND	5.0	n	le .	. 11	**	W-	٦٢	
2-Chiorotoluene	ND	5.0	n	II	11		JF	0	
4-Chlorotoluene	ND	5.0	It	u *	18	15	h		
Dibromochloromethane	ND	5.0	U.	ħ		11	II .		
1,2-Dibromo-3-chloropropane	ND	5.0	* 11	71	"	if	#		
1,2-Dibromoethane (EDB)	ND	5.0	11	11	n	11	u	, m <sup>(8)</sup>	
Dibromomethane	ND	5.0		71		9	lu .	R	
1,2-Dichlorobenzene	ND	5.0	W	*	D		lt:	ir	
1,3-Dichlorobenzene	ND	5.0	11	H	u	М	11	et-	
1,4-Dichlorobenzene	ND	5.0	П		u		Ħ	Ħ	
Dichlorodifluoromethane	ND	5.0		15	н	π	11	π	
1,1-Dichloroethane	ND	5.0	ш	11	n	*	11	ţ1	
1,2-Dichloroethane	ND	5.0	η	11	n	*	11	п	
1,1-Dichloroethene	ND	5.0	-11	0	n	*	n	19	
cis-1,2-Dichloroethene	ND	5.0	**	.0.	и	19	ш	9	
trans-1,2-Dichloroethene	ND	5.0	#	Н	Ħ	1)	11	IJ	
1,2-Dichloropropane	ND	5.0	₩	rı	74	π	11	11	
1,3-Dichloropropane	ND	5.0	*	н	0 11		11	IJ	
2,2-Dichloropropane	ND	5.0	11		1)	н	ı	п	
1,1-Dichloropropene	ND	5.0	11	7	1)	н		п	
cis-1,3-Dichloropropene	ND	5.0	11	*	11	н	<b>₽</b> ≈	- 0	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Page 11 of 3.



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

## Volatile Organic Compounds by EPA Method 8260B

## Sierra Analytical Labs, Inc.

	Re	porting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Not
B49-41706-3-7 (0604332-03) Soll	Sampled: 04/17/06 10:12	Recei	ved: 04/1	7/06 17:00	)	***************************************			-
trans-1,3-Dichloropropene	ND	5.0	μg/kg	1	B6D1927	04/18/06	04/19/06	EPA 8260B	
Ethylbenzene	ND	5.0	n			11	rt .	Į.	
Hexachlorobutadiene	ND	5.0	tr	II.	TI .	U U	u	19	
Isopropylbenzene	ND	5.0	b	In	91	ų,	a	11	
p-Isopropyltoluene	ND	5.0	P	H.	' п	41	V	19	
Methylene chloride	ND	5.0	н	И	m	· ·	U	11	
Methyl tert-butyl ether	ND .	5.0	n		17	F	tf		
Naphthalene	ND	5.0	n ·	п	19 10	P	а	W	
n-Propylbenzene	ND	5.0	31	D)	11		*п.		
Styrene	ND	5.0	ч	10	⊕ <b>1</b> 1	NF	0	*	,
1,1,1,2-Tetrachloroethane	ND	5.0	-1	п	11	F	ų	Ħ	
1,1,2,2-Tetrachloroethane	ND	5.0	u -	n	II	Pt .	W	171	
Tetrachloroethene	ND	5.0	ų.	н		W	U	<b>H</b>	+
Toluene	ND	5.0	41	п	H .	₹	17	*	
1,2,3-Trichlorobenzene	ND	5.0	7	19	ď	*	Off :	er .	
1,2,4-Trichlorobenzene	ND	5.0	, r	п		₩.	0.	Ħ	
1,1,1-Trichloroethane	ND	5.0		7	n	19	Ħ	₩ - 8	
1,1,2-Trichloroethane	ND	5.0	7	#	n	7	h	et .	8
Trichloroethene	ND	5.0	•	75	-	II.	00	H	
Trichlorofluoromethane	ND	5.0	b	<b>x</b> 0		H	:0	er .	
1,2,3-Trichloropropane	ND	5.0	ti	*	11	п	ri	н	
1,2,4-Trimethylbenzene	ND	5.0	t t	и	₹	17	н	Pt .	
1,3,5-Trimethylbenzene	ND	5.0	n	11	ч	10	T	15	*
Vinyl chloride	ND	5.0	ĮI.	10	e	n	м	10	*
m,p-Xylene	ND	5.0	11	11	n	0.0	N	ij	
o-Xylene	ND	5.0	1)	31	"	0)	п	11 .	
Surrogate: Dibromofluoromethane	no entre	117%	80-	120	H	n	tt	, , , , , ,	
Surrogate: Toluene-d8		103 %	81-	117	#	H	"	*	
Surrogate: 4-Bromofluorobenzene		102 %		121	Ħ	ů,		#	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

## Volatile Organic Compounds by EPA Method 8260B

## Sierra Analytical Labs, Inc.

. 1		Reporting		_, 1	· · · · · · · · · · · · · · · · · · ·				
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
FB-41706 (0604332-04) Water	Sampled: 04/17/06 08:45	Received	: 04/17/	06 17:00	-\$-	lx de la	2 4	×	
Benzene	ND	1.0	μg/L	1 .	B6D1901	04/18/06	04/18/06	EPA 8260B	
Bromobenzene	ND	1.0	И	R	Ŋ	. 11	и	· ·	
Bromochloromethane	ND	1.0		4	"	n	n	v	
Bromodichloromethane	ND	1.0	11		III	× 11 ×	н	1r	
Bromoform	ND	1.0	u		"	"	H	31	
Bromomethane	ND	5.0	:::- II	ĸ	<b>Ú</b> F	ıl	H	li .	
n-Butylbenzene	ND	1 <b>.0</b>	11		ø	II	u u	11	
sec-Butylbenzene	ND	1.0	-11	ti.	. 8	II .	41	II .	
ert-Butylbenzene	ND	1.0	19	U	W	D.	10	Ir. 2	
Carbon tetrachloride	ND	1.0	1.19	u	#	17	¥	II	
Chlorobenzene	ND	1.0	lı.	а	Ħ	(P	17	и	
Chloroethane	ND	5.0	H = 0	*	Ħ	U	17	ч .	
Chloroform	ND	1.0	н	W	17	19	11	N	
Chloromethane	ND	5.0		Ħ	T T	Ħ	u u		
2-Chlorotoluene	ND	1,0	н	(i) B	n	M 8 - 40	h	ef	
4-Chlorotoluene	ND	1.0	, P	- P	e e	#	jų.	19	
Dibromochloromethane	ND	1.0	- U -	11	4	Ir		*	
1,2-Dibromo-3-chloropropane	ND	5.0	0	NI.	11	'n		a	
1,2-Dibromoethane (EDB)	ND ND	1.0	· H	9	M	Ħ	и	, or	
Dibromomethane	ND .	1.0	7	11	TF.	11	=	II =	
1,2-Dichlorobenzene	ND	1.0		11	Ħ	ħ	H	÷ #	
1,3-Dichlorobenzene	ND	1.0	78	11	п	11	π	π	
1,4-Dichlorobenzene	ND	1.0	и	71	П	*	а	*	*
Dichlorodifluoromethane	ND	5.0	16	Į1	v	И	11	m	
1,1-Dichloroethane	ND	1.0	ij		¥r		11		
1,2-Dichloroethane	ND	1,0	q	- H	•		Ħ	н	
1,1-Dichloroethene	ND	1.0	4	н	v	D		н	
cis-1,2-Dichloroethene	ND	1,0	9	H	Ц	19	11	D	
trans-1,2-Dichloroethene	ND	1.0	14	п	ц	11	Pr	u	
1,2-Dichioropropane	ND	1.0	И	П	п	ч	TT .	11	
1,3-Dichloropropane	ND	1.0	н	U	₩.	11	U	11	
2,2-Dichloropropane	ND	1.0	70	(F		11	ш	н	
1,1-Dichloropropene	ND	1.0	F	11		0	\u00e4	11	
cis-1,3-Dichloropropene	ND	1.0	n	1	H	H	11	li	
trans-1,3-Dichloropropene	ND	1.0	II.	,	Ħ	- 10	10	)[	
Ethylbenzene	ND	1.0	D		u	rı	11	n	
Hexachlorobutadiene	ND	1.0	11		 fi	,	11		
Isopropylhenzene	ND	1.0			#		 It	n	
p-Isopropyltoluene	ND		11				н	r.	
Methylene chloride	ND ND	1.0 1.0			7	, ,	ü	e e	
Methylene chloride Methyl tert-butyl ether	ND ND	1.0	7	,,	,,	,	- 11	11	



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC
Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

## Volatile Organic Compounds by EPA Method 8260B

#### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
FB-41706 (0604332-04) Water	Sampled: 04/17/06 08:4	5 Received	1: 04/17/0	06 17:00	*				
Naphthalene	ND	1.0	μg/L	1	B6D1901	04/18/06	04/18/06	EPA 8260B	
n-Propylbenzene	ND	1.0	111		n û	u	U.	Ħ	
Styrene	ND	1.0	h	11	**	. 11	№ Н	11	
1,1,1,2-Tetrachloroethane	ND	1.0	'n	77	*	7	'n	Ħ	
1,1,2,2-Tetrachloroethane	ND	1.0	n	Ħ	<b>#</b>	77	TÎ.	u	
Tetrachloroethene	ND	1.0	N	Ħ	. 4	*	W	H	
Toluene	ND	1.0	н .		н	N	17	r	
1,2,3-Trichlorobenzene	ND	1.0	íi .	*	n	H	11	*	
1,2,4-Trichlorobenzene	ND	- 1.0	U	n	n	4	41	. #	
1,1,1-Trichloroethane	ND	1.0	U.	ıı	π	n,	u u	71	
1,1,2-Trichloroethane	ND	1.0	Ħ	ŧ	11	IJ	n	© 7	-
Trichloroethene	ND	1.0	14	11	Ψ	11	п	ч	
Trichlorofluoromethane	ND	5.0	*	11	*	19	I/	n	- 1
1,2,3-Trichloropropane	ND	5.0	*	W	., W	Ä	IJ	D	8.7
1,2,4-Trimethylbenzene	ND	1.0	W	Į)	v	<b>#</b>	n	n	
1,3,5-Trimethylbenzene	ND	1.0	7	. 0	47		p -	η -	
Vinyl chloride	ND	5.0	, w	ų.	4	ĸ	w	N.	
m,p-Xylene	ND .	1.0	. 0	u.	ч	•	े न	т т	-30-
o-Xylene	ND	1.0	, q	F				11*	
Surrogate: Dibromofluoromethan	ie	110%	86-	118	"	"	"	11	
Surrogate: Toluene-d8		101 %	88-	110	*	ħ	tr	. "	
Surrogate: 4-Bromofluorobenzen	e	102 %	86-	115	n	u	n	*	
TB-41706 (0604332-05) Water	Sampled: 04/17/06 00:0	0 Receive	d: 04/17/	06 17:00					
Benzene	ND	1.0	μg/L	1	B6D1901	04/18/06	04/18/06	BPA 8260B	, <u></u>
Bromobenzene	ND	1.0	11	11	r r	Tr.	H	D D	0
Bromochloromethane	ND	1.0		112	₩	19	11	in	
Bromodichloromethane	ND	1.0	•	п	Ħ	**	11	R	
Bromoform	ND	1.0	R	77	71	li .	11	- 4	
Bromomethane	ND	5.0	N	77	π	11	11		
n-Butylbenzene	ND	1.0	11	**	u	Ħ	Ħ	Ħ	-
sec-Butylbenzene	ND	1.0	in .	11	u	Ħ	Ħ	8 4	
tert-Butylbenzene	ND	1.0	н	Ħ	n	н	Н	q ·	
Carbon tetrachloride	ND	1.0	a	н	н	Ħ	n	a × =	
Chlorobenzene	ND	1.0	n	P	ıı	н		n	
Chloroethane	ND	5.0	II.	и .	11	ш	li	o. B	
Chloroform	ND	1,0	n n	10	Ĥ	ш	n	Pr .	,
Chloromethane	ND	5.0	. 11	10	11 -	ш	It	H	
2-Chlorotoluene	ND	1.0	11	п	u u	*	*	11	
2-Chierotoluene									
4-Chlorotoluene	ND	1.0	ч		Ir		10	n	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

# Volatile Organic Compounds by EPA Method 8260B

## Sierra Analytical Labs, Inc.

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
TB-41706 (0604332-05) Water	Sampled: 04/17/06 00:00	Received	1: 04/17/	06 17:00		-	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
1,2-Dibromo-3-chloropropane	ND	5.0	μg/L	1	B6D1901	04/18/06	04/18/06	EPA 8260B	-
1,2-Dibromoethane (EDB)	ND	1.0	M	91	D -3	a	17	**	
Dibromomethane	ND	1.0	"	11	11.	41	n «	*	
1,2-Dichlorobenzene	ND	1.0	**		"	1	P	TT .	
1,3-Dichlorobenzene	ND	1.0	II.	i u	11	B #	n	#	
1,4-Dichlorobenzene	ND	1.0	p	4	11	*	kp	17	8
Dichlorodifluoromethane	ND	5.0	lr .	N	11		U.	11	
1,1-Dichloroethane	ND ND	1.0	II.	4	н		9	11	
1,2-Dichloroethane	ND	1.0	ĮI.	u	11	=	7	P.,	
1,1-Dichloroethene	ND	1.0	и	17	h	U	•	н ,	
cis-1,2-Dichloroethene	ND	1.0	н	11	ři.	, "	₩	. * M	
trans-1,2-Dichloroethene	ND	1.0	. 4	11	и :	91	#	'π	
1,2-Dichloropropane	ND	1.0	*	16	D	11		H	
1,3-Dichloropropane	ND	1.0	*	п	11	11	и	и	
2,2-Dichloropropane	ND	1.0	tr		U	11	- Y.	11	
1,1-Dichloropropene	ND	1.0	π	×	II	19	Ú×.	*	
cis-1,3-Dichloropropene	ND	1.0	4	# XX	r.	11	41	. 1	
trans-1,3-Dichloropropene	ND	1.0	. 11		. 4		4	11	
Ethylbenzene	ND	1.0		ji ji	π	п	41	- 11	
Hexachlorobutadiene	ND	1.0	7		-	Ņ	11	u	
Isopropylbenzene	ND	1.0	**	ц	*	n	11	u	*
p-Isopropyltoluene	ND	1.0	#	Ħ	**	. 11	11	u	
Methylene chloride	ND	1.0	'n	tr	11		· ·	47	
Methyl tert-butyl ether	ND	1.0	41	4	10	Ir		v	
Naphthalene	ND	1,0	μ	π	D	e.	li .	10	
n-Propylbenzene	ND	1.0	u	*	T	II.		ય	
Styrene	ND	1,0	ų.	19	н	11	п	11	
1,1,1,2-Tetrachloroethane	ND	1.0	11	11	-	ŋ		ıı	
1,1,2,2-Tetrachloroethane	ND	1.0	41	n	71	*	×	н	
Tetrachloroethene	ND	1.0	P	ı,	91	Ħ		N	
Toluene	ND	1.0			Ħ	*	Ħ		
1,2,3-Trichlorobenzene	ND	1.0		u	N	Ir		Ħ	
1,2,4-Trichlorobenzene	ND	1.0		u	ur .	u,	н	Ħ	
1,1,1-Trichloroethane	ND	1.0		11	àr	v	н		
1,1,2-Trichloroethane	ND	1.0	N	- "	ų,	ч	ď	et	
Trichloroethene	ND	1.0	Ħ	11	19	**	11	н	
Trichlorofluoromethane	ND	5.0	7	H	11	11	Ħ	U	
1,2,3-Trichloropropane	ND	5.0	n	n	11	11	*	п	
1,2,4-Trimethylhenzene	ND	1.0	ĮI.	н	11	×	7	a	
1,3,5-Trimethylbenzene	ND	1.0	h	н	н		₩.	п	
Vinyl chloride	ND ND	5.0	"	и	К	F	×	а	



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

cis-1,3-Dichloropropene

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki Reported: 04/27/06 12:55

## Volatile Organic Compounds by EPA Method 8260B Sierra Analytical Labs, Inc.

Aurothete		Reporting Limit	Units	Dilution	Batch	Desar-1	A malessa d	Mar ad	<b>\$</b> 7.50
Analyte	Result				Hairn	Prepared	Analyzed	Method	Notes
TB-41706 (0604332-05) Water	Sampled: 04/17/06 00:00	Received	1: 04/17/	06 17:00		* *			
m,p-Xylene	ND	1.0	µg/L	1	B6D1901	04/18/06	04/18/06	EPA 8260B	
o-Xylene	ND	1.0	(1	HC.W	W	M	И	*	
Surrogate: Dibromofluoromethan	e	108 %	86-	-118		#	я .		
Surrogate: Toluene-d8		102 %	88-	110	N	"	W	ir	
Surrogate: 4-Bromofluorobenzen	2	100 %	86-	115	#	"	fr	н	
EB-41706 (0604332-06) Water	Sampled: 04/17/06 10:30	Receive	d: 04/17/	06 17:00					÷
Benzene	ND	1.0	µg/L	1	B6D1901	04/18/06	04/18/06	EPA 8260B	
Bromobenzene	ND	1.0	ir .	Ħ	P	71	n	я	
Bromochloromethane	ND	1.0	r	₩.	4	π	п	ti	
Bromodichloromethane	ND	1.0	H	#	17	*	п	91	
Bromoform	ND	1,0	tr	yı		Я	п	n	
Bromomethane	ND	5.0	0	*	**	₩	U	Ħ	
n-Butylbenzene	ND	1.0	t.	ħ	17	*	н	Ħ	
sec-Butylbenzene	ND ND	1.0	NI NI	11	n	11	e e	II.	
tert-Butylbenzene	ND	1.0	41	41	н .	11	н	jø.	
Carbon tetrachloride	ND	1.0	11	11	H	11	π-	. 0	
Chlorobenzene	ND	. 1,0	11	11	n	19	9 11	N	
Chloroethane	ND	5.0	11	II	W	11	И	ji .	
Chloroform	ND	1.0	11	ц	r	11.	*	ш	100
Chloromethane	ND	5.0	11	ı	9	- 0	*	n	
2-Chiorotoluene	ND	1.0	41	I¢	17	- 11	*	n	
4-Chlorotoluene	ND	1.0	N	п	11	u	11	н	
Dibromochloromethane	ND	1.0	R	ů	1)	и	11	Ħ	
1,2-Dibromo-3-chloropropane	ND	5.0	n	11	11	π	ц	#	
1,2-Dibromoethane (EDB)	ND	1.0	P	*	н	н	11	n n	
Dibromomethane	ND	1.0	8 #	*	n	*	19	#	
1,2-Dichlorobenzene	ND	1.0	Ħ	*	11	n	и	• н	
1,3-Dichlorobenzene	ND	1.0	Ħ	*	ш	π	Bis	· N	
1,4-Dichlorobenzene	ND	1.0	b	•	u	7	19	Ħ	
Dichlorodifluoromethane	ND	5.0		11	n		u u	N	
1,1-Dichloroethane	ND	1.0	n	11	)r	79	tr	11	
1,2-Dichloroethane	, ND	1.0	b	11	и	•	U	10	
1,1-Dichloroethene	ND	1.0	n	11	)r	'n	11	И	
cis-1,2-Dichloroethene	ND	1.0	ч	11	p	7	11	11	
trans-1,2-Dichloroethene	ND	1,0	11	11	ır	'n	п	В	
1,2-Dichloropropane	ND	1.0	9	11	V	* "	Ħ	11	
1,3-Dichloropropane	ND	1.0	11	11	u u	и	77	и	
2,2-Dichloropropane	ND	1.0	н		*	10	W	ir .	
1,1-Dichloropropene	ND	1.0	H	ш	*	U	q	IP .	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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ND



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

# Volatile Organic Compounds by EPA Method 8260B

## Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	4-	Notes
EB-41706 (0604332-06) Water	Sampled: 04/17/06 10:30	Received	: 04/17/	06 17:00	-	* ×		,		
trans-1,3-Dichloropropene	ND	1.0	μg/L	1	B6D1901	04/18/06	04/18/06	EPA 8260B		
Ethylbenzene	ND	1.0	41	11	la la	4	Ħ	n n		
Hexachlorobutadiene	ND	1.0	u	11	n		H	Ħ		
Isopropylbenzene	ND	1.0	11	**	- II	u	PI .	H		
p-Isopropyltoluene	ND	1.0	н .	*11	U	п	* и	H	7	
Methylene chloride	ND	1.0	*	*	0	lı	. II	Ħ		
Methyl tert-butyl ether	ND	- 1.0	9	÷ D	u	N	7	N		
Naphthalene	ND	1.0	11	Ų	TI TI	<b>4</b>		π		
n-Propylbenzene	ND	1.0	19	ш	₩	. <b>x</b>	•	Ħ		
Styrene	ND	1,0	19	II.	π	P	H	#		
1,1,1,2-Tetrachloroethane	ND	1.0	11	U	*	W	. N	÷		
1,1,2,2-Tetrachloroethane	ND	1.0	H	"	19	Ħ		*		
Tetrachloroethene	ND	1.0	14	"	×	17		¥		
Toluene	ND	1.0	Ú	. u	<b>IT</b>	н		tr .		
1,2,3-Trichlorobenzene	ND	1.0	11	п	7	H		п		
1,2,4-Trichlorobenzene	ND	1.0	H	-	in		M	11		
1,1,1-Trichloroethane	ND	1.0	75	Ħ	r	Ħ	u	11		
1,1,2-Trichloroethane	ND	1.0	٠.		u.	u	ų	II,		
Trichloroethene	ND	1.0	W	<b>f</b> t	n	11	* 41	п		
Trichlorofluoromethane	ND	5.0	*	•	n	u	11	ц		
1,2,3-Trichloropropane	ND	5.0		11	11	9	11	ц		
1,2,4-Trimethylbenzene	ND	1.0	v	11	11	ч	NI.	u		
1,3,5-Trimethylbenzene	ND	1.0	u	ń	μ	н				
Vinyl chloride	ND	5.0	н	и	"	ır	4	N		
m,p-Xylene	ND	1.0	n	ĸ	17	U	н	Ħ		
o-Xylene	ND	1.0	N	Y .	* 0	It				
Surrogate: Dibromofluoromethan	ne .	109 %	86	-118	H	<b>#</b>	И	и		
Surrogate: Toluene-d8		102 %	88	-110	W	n	п	"		
Surrogate: 4-Bromofluorobenzen	e	99.6%	86	-115	H	n	И	n		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

## Volatile Organic Compounds by EPA Method 8260B

## Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
TB-41706 (0604332-05) Water	Sampled: 04/17/06 00:00	Received	1: 04/17/	06 17:00					
m,p-Xylene	ND	1.0	μ <b>g</b> /L	1	B6D1901	04/18/06	04/18/06	EPA 8260B	-
o-Xylene	ND	1.0	Ħ		"	Я	11	"	
Surrogate: Dibromofluoromethan	ie	108%	86-	118	n	W	п	"	
Surrogate: Toluene-d8		102 %	-88	110	ft.	W	JI .	n	
Surrogate: 4-Bromofluorobenzen	e	100 %	86-	115	ri	*	ų	n	
EB-41706 (0604332-06) Water	Sampled: 04/17/06 10:30	Received	1: 04/17/	06 17:00					
Benzene	ND	1.0	μ <b>g</b> /L	1	B6D1901	04/18/06	04/18/06	EPA 8260B	
Bromobenzene	ND	1.0	H	U	TT.	71	79	(r	
Bromochloromethane	ND	1.0	11	u	₩	11	11	r	
Bromodichloromethane	ND	1.0	lt.	π	Įį.	17	× 31	#	
Bromoform	ND	1.0	U	**	н	11	30	ħ	
Bromomethane	ND	5.0	U	*	Ħ	11	Ň	¥	
n-Butylbenzene	ND	1.0	fr	* *	n	11	ч	#	
sec-Butylbenzene	ND	1.0	H	W	11	н	II	•	*
tert-Butylbenzene	ND	1.0	Ħ		π		l)	*	
Carbon tetrachloride	ND	1.0	ग	*	H	R		. 19	
Chlorobenzene	ND	. 1.0	*	*	yı		II	T	
Chloroethane	ND	5.0	71		9	•	D	u	-
Chloroform	ND	1.0	н	0	17	-	P	11	
Chloromethane	ND	5.0	W		11	#	*	11	
2-Chlorotoluene	ND	1.0	*	11	P	41	Ħ	.∵ų	
4-Chlorotoluene	ND	1.0	11		7	u	*	lı	
Dibromochloromethane	ND	1.0	11	ù	rt	и	•	ш	
1,2-Dibromo-3-chloropropane	ND	5.0	11	n		u	М	It	
1,2-Dibromoethane (EDB)	ND	1.0	11	lt.		Ŋ	#	Ji.	
Dibromomethane	ND	1.0	W	я	**	н	11	H*	
1,2-Dichlorobenzene	ND	1.0		Ħ	*	.0	11	- и	
1,3-Dichlorobenzene	ND	1.0	H	u	*	11	11	5 m	
1,4-Dichlorobenzene	ND	1.0	•	п		n	n	w	
Dichlorodifluoromethane	ND	5.0	*	n	n	11		×	
1,1-Dichloroethane	ND	1.0	*	h	10	U	h	¥	
1,2-Dichloroethane	ND	1.0	W	н	u	u	Ħ	•	
1,1-Dichloroethene	ND	1.0	*	n	ti	U		*	
cis-1,2-Dichloroethene	ND	1.0	11		H	tr .	11	n	
trans-1,2-Dichloroethene	ND	1.0	9	11	71	Ħ	η	11	
1,2-Dichloropropane	ND	1.0	u	11	.11	17	p	,,	
1,3-Dichloropropane	ND	1.0	"	11	n .	**	II.	D	
2,2-Dichloropropane	ND	1.0	þi	11	-× u	দ	n,	0	
1,1-Dichloropropene	ND	1.0	þi	D		Ħ	r	h	
cis-1,3-Dichloropropene	ND	1.0	н	P			W	и	



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200 Westminster CA, 92683

Project: APC
Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

# Volatile Organic Compounds by EPA Method 8260B

#### Sierra Analytical Labs, Inc.

Anaiyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
EB-41706 (0604332-06) Water	Sampled: 04/17/06 10:30	Received	1: 04/17/0	6 17:00	- ,				
trans-1,3-Dichloropropene	ND	1.0	μg/L	i	B6D1901	04/18/06	04/18/06	EPA 8260B	
Ethylbenzene	ND	1.0	n	11	Н	h	ħ	n	
Hexachlorobutadiene	ND	1.0	41	- Air	Th.	ч	H	. 0	
Isopropylbenzene	ND	1.0	n	- 0	.0	ч	ч	dr	
p-Isopropyltoluene	ND	1.0	41	- н	H.	u	п	FI	
Methylene chloride	ND	1.0	7 1	Ħ	10	11	li .	n -	
Methyl tert-butyl ether	ND	1.0		÷ • 0	ir .		· · · · · · · · · · · · · · · · · · ·	íř	÷
Naphthalene	ND	1.0	Ħ	U.	· •	19	ø	U	
n-Propylbenzene	ND	1.0		U	Ų	יו	ti.	IV E	
Styrene	ND	1.0	n	II	Ų	ħ	U	μ	-8-
1,1,1,2-Tetrachioroethane	ND	1.0	U	U	II	IJ	n	II	
1,1,2,2-Tetrachioroethane	ND	1.0	н	ıı	ų.	II.	Ħ	ц	
Tetrachloroethene	ND	1.0		Ħ	44	N	*	н	
Toluene	ND	1.0	41	*	*	H			
1,2,3-Trichlorobenzene	ND	1.0	11	*	₩.			Ħ	
1,2,4-Trichlorobenzene	ND	1.0	19	w	ħ	R		*	
1,1,1-Trichloroethane	ND	1.0	in .	TÎ	r,		tr.	π	
1,1,2-Trichloroethane	ND	1.0	n	P	, ii	e	9 0	πI	
Trichloroethene	ND	1.0	-0		n	ч	19	π	
Trichlorofluoromethane	ND	5.0	ŧĮ	u	u	71	Ħ	н	
1,2,3-Trichloropropane	ND	5.0	H	*	н	Ħ	и	U	
1,2,4-Trimethylbenzene	ND	1.0	· It	*	•	*	₩	п	
1,3,5-Trimethylbenzene	ND	1.0	P	77	*	#	H	₩.	
Vinyl chloride	ND	5.0	ır	₩.		п	n	*	
m,p-Xylene	ND	1.0	e e	71	14	и	Ħ	*	
o-Xylene	ND	1.0	ņ	ч	ŋ	η	n	71	
Surragate: Dibromofluoromethan	e	109 %	86-1	118	n	<b>"</b>	*	п	
Surrogate: Toluene-d8		102 %	88-1	110	fr	#	*	n	
Surrogate: 4-Bromofluorobenzene	2	99.6%	86-2	115		*	r	rr	

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Worley Parsons Komex 5455 Garden Grove Bivd. Suite 200 Westminster CA, 92683 Project: APC
Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

## Metals by EPA 6000/7000 Series Methods - Quality Control

#### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Lovel	Source Result	%rec	%REC Limits	RPD	RPD Limit	Notes
Batch B6D1920 - EPA 7470A	÷ -							*	. ,	
Blank (B6D1920-BLK1)		×		Prepared &	& Analyze	ed: 04/19/	06			
Mercury	ND	0.00073	mg/L	×		1				
LCS (B6D1929-BS1)				Prepared &	& Analyza	ed: 04/19/	06			
Mercury	0.00107	0.00073	mg/L	0,00100		107	80-120			
Matrix Spike (B6D1920-MS1)	Sor	ırce: 0604 <b>22</b>	1-02	Prepared a	& Analyza	ed: 04/19/	06			
Mercury	0,00114	0,00073	mg/L	0.00100	ND	114	70-130			
Matrix Spike Dup (B6D1920-MSD1)	Sor	ırce: 06042 <b>2</b>	1-02	Prepared a	& Anaiyz	ed: 04/19/	06			
Mercury	0.00117	0.00073	mg/L	0.00100	ND	117	70-130	2.60	30	
Batch B6D2113 - EPA 3050B									-	
Blank (B6D2113-BLK1)				Prepared:	04/21/06	Analyze	1: 04/24/06			
Antimony	ND	1,6	mg/kg					OHIOTE TO S	Lieu	
Arsenic	ND	1.7	*							
Barium	ND.	3.3	n		8					
Beryllium	ND	0.75	н							
Cadmium	ND	0.51	•							
Chromium	ND	0.98	14							
Cobalt	ND	2.2	H							
Copper	ND	2.2	ď							
Lead	ND	. 1.3	91							
Molybdenum	ND	1.7	11							
Nickel	ND	0.79	11							
Selenium	ND	1.9	II.						-	
Silver	ND	0.80	"					÷		
Thallium	ND	1.5	*						141	
Vanadium	ND	0.73	*					-		
Zinc	ND	1.3	19							



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200 Westminster CA, 92683 Project: APC
Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

## Metals by EPA 6000/7000 Series Methods - Quality Control

## Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Unite	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D2113 - EPA 3050B		н		-						
CS (B6D2113-BS1)		*	••	Prepared:	04/21/06	Analyzec	1: 04/24/06		į.	
Antimony	121	1.6	mg/kg	100		121	75-125		<u> </u>	
Arsenic	116	1.7	н	100	-1-	116	78-122			
Barium .	107	3.3	N .	100		- 107	80-120			
Beryllium	120	0.75	11	100		120	80-120			
Cadmium	109	. 0.51	ur .	100		109	80-120			*
Chromium	110	0.98	11	100		110	80-120			
Cobalt	112	2.2	v	100		112	80-120			
Copper	106	2.2	17	100		106	78-122			
Lead	115	1.3	tr.	100		115	80-120		* *	4
Molybdenum	113	1,7	17	100		113	80-120			
Nickel	111	0.79	ır	100		111	80-120			
Selenium	110	1.9	н	100	1.1	110	76-124			
Silver	111	0.80	u	100		111	60-140			
Thellium	115	1,5	н	100		115	80-120			
Vanadium	107	0.73	n	100		107	80-120			
Zinc	108	1.3	u	100		108	78-122			
LCS Dup (B6D2113-BSD1)				Prepared	04/21/06	Analyze	1: 04/24/06			
Antimony	103	1.6	mg/kg	100		103	75-125	16.1	20	
Arsenic	98,3	1.7	ч	100		98.3	78-122	16.5	20	
Barium	94.4	3.3	и	100		94.4	80-120	12.5	20	
Beryllium	98.0	0.75	11	100		98.0	80-120	20.2	20	QR-
Cadmium	93.9	0.51	. "	100		93.9	80-120	14.9	20	
Chromium	96.9	0.98	9	100		96.9	80-120	12.7	20	
Cobalt	98.6	2.2	"	100		98.6	80-120	12.7	20	
Copper	92.4	2.2	11	100		92.4	78-122	13.7	20	
Lead	98.3	1.3	U	100		98,3	80-120	15.7	20	
Molybdenum	96.9	1.7	u	100		96.9	80-120	15,3	20	
Nickel	94.5	0.79		100		94.5	80-120	16.1	20	
Selenium	94.7	1.9	и	100		94.7	76-124	14.9	20	
Silver	98.2	0.80	п	100		98.2	60-140	12.2	40	
Thallium	98.2	1.5	n	100		98.2	80-120	15.8	20	
Vanadium	94.5	0.73	n	100		94.5	80-120	12,4	20	
Zine	91.9	1.3		100		91.9	78-122	16.1	20	

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Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200 Westminster CA, 92683 Project: APC

Project Number: H0287C Project Manager: Lee Paprocki Reported: 04/27/06 12:55

## Metals by EPA 6000/7000 Series Methods - Quality Control

## Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D2113 - EPA 3050B										
Matrix Spike (B6D2113-MS1)	Soi	ırce: 060410	9-12	Prepared;	04/21/06	Analyze	l: 04/24/06			
Antimony	40.4	1.6	mg/kg	99.8	0.81	39.7	60-140			QM-0"
Arsenic	170	1.7	*	99.8	33	137	70-130			QM-0"
Barium	331	3.3	*	99.8	200	131	70-130			QM-0"
Beryllium	140	0.75	7	99.8	0.64	140	70-130			QM-0'
Cadmium	131	0.51	n .	99.8	0.35	131	70-130			QM-0°
Chromium	173	0.98	n	99.8	42	131	70-130			QM-0
Cobalt	140	2,2	11	99.8	19	121	70-130			
Соррег	171	2.2	11 ,	99.8	38	133	70-130			QM-0
Lead	137	1.3	11	99.8	7.7	130	70-130	*		
Molybdenum	125	1.7	91	99.8	1,4	124	70-130		9	
Nickel	145	0.79	#1	99.8	23	122	70-130			
Selenium	133	1.9	1r	99.8	2.1	131	70-130			QM-0
Silver	120	0.80	1)	99.8	ND	120	60-140			
Thallium	111	1,5	37	99.8	ND	111	70-130			
Vanadium	197	0.73	17	99.8	68	129	70-130			
Zine	222	1.3		99.8	83	139	70-130			QM-0
Matrix Spike Dup (B6D2113-MSD1)	So	urce: 060410	9-12	Prepared:	04/21/06	Analyze	d: 04/24/06			
Antimony	31.0	1.6	mg/kg	95.5	0.81	31.6	60-140	26.3	20	QM-07 QR-0
Arsenic	136	1.7	Ħ	95.5	33	108	70-130	22.2	20	QR-0
Barium	281	3.3	77	95.5	200	84.8	70-130	16.3	20	
Beryllium	109	0.75	я	95.5	0.64	113	70-130	24.9	20	QR-0
Cadmium	106	0.51	II .	95.5	0.35	111	70-130	21.1	20	QR-0
Chromium	143	0.98	n	95.5	42	106	70-130	19.0	20	
Cobalt	118	2.2	ìı	95.5	19	104	70-130	17.1	20	
Copper	142	2.2	n	95.5	38	109	70-130	18.5	30	
Lead .	110	1.3	11	95.5	7.7	107	70-130	21.9	20	QR-0
Molybdenum	98.9	1.7	11	95.5	1.4	102	70-130	23.3	20	QR-0
Nickel	128	0.79	p	95.5	23	110	70-130	12.5	20	
Selenium	107	1.9	ч	95.5	2.1	110	70-130	21.7	20	QR-0
Silver	102	0.80	II.	95.5	ND	107	60-140	16.2	40	
Thallium	89.1	1.5	v	95.5	ND	93,3	70-130	21.9	20	QR-0
Vanadium	166	0.73	pl	95.5	68	103	70-130	17.1	20	
Zine	179	1,3	el	95.5	83	101	70-130	21.4	20	QR-0



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

#### Metals by EPA 6000/7000 Series Methods - Quality Control

## Sierra Analytical Labs, Inc.

Analyte	Repult	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D2116 - EPA 7471A								. +		
Bjank (B6D2116-BLK1)		-		Prepared:	04/21/06	Analyzed	: 04/24/06			
Mercury	ND	0.18	ng/kg							
LCS (B6D2116-B\$1)				Prenared:	04/21/06	Analyzed	: 04/24/06		4 _	4.5
Meroury	0.15	0.18	ng/kg	0.167		89.8	70-130			
Matrix Spike (B6D2116-MS1)	Son	ırce: 06041 <b>0</b>	9-12	Prenared:	04/21/06	Analyzed	: 04/24/06			
Mercury	0.18	0.16	mg/kg	0.149	0.04	94.0	70-130			
Franki G. R. D. Corners C Records	0	1	0.40	D	0.1.01.107	4. 1	0.450.400			
Matrix Spike Dup (B6D2116-MSD1) Mercury	0.20	urce: 060410 0.18		0.163	0.04	Analyzed	70-130	10.6	25	
ater Gary	0.20	0.10	mg/kg	0.163	0.04	70.2	70-150	10.5	<b>4</b> 3	
Batch B6D2408 - 7199			our out!			+				
Blank (B6D2408-BLK1)				Prepared	& Analyz	ed: 04/17/	06	.4.		***
Hexavalent Chromium	ND	0.0020	mg/L							
LCS (B6D2408-BS1)				Prenared	& Analyz	ed: 04/17/	06			
Hexavalent Chromium	0.00656	0.0020	mg/L	0.00600		109	85-115			
15-1-4- S-D (D/D4400 3501)			19	D. 1	0 4 1	1-04486	0.6			
Matrix Spike (B6D2408-MS1) Hexavalent Chromium	0.00588	urce: 060433 0.0020	2-04 mg/L	0.00600	& Analyz 0.0018	ed: 04/17/0 68.0	80~120			QM-0*
4	0.00300	0.0020	щВъ							(ZIM-U
Matrix Spike Dup (B6D2408-MSD1)		ırce: 060433	2-04		<del></del>	ed: 04/17/				
Hexavalent Chromium	0.00536	0.0020	mg/L	0.00600	0.0018	59.3	80~120	9.25	20	QM-0'
Batch B6D2409 - EPA 3010A										
Blank (B6D2409-BLK1)				Prepared:	04/24/06	Analyzed	: 04/25/06			
Antimony	ND	0.023	mg/L						···-···	
Arsenic	ND	0.025	þi							
Barium	ND	0.019	"							
Beryllium	ND	0.0090	"			•				
Cadmium	ND	0.0040	"							-4-
Chromium	ND	0.0060	U							
Cobalt	ND	0.0060	**							
Copper	ND	0.012	ч							
Lead	ND	0.019	N							
Molybdenum	ND	0.028	•							
atory ocientum										
Nickel	ND	0.010	*							
2.20 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 To 10 T	ND ND	0.010	*							



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200 Westminster CA, 92683 Project: APC
Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

## Metals by EPA 6000/7000 Series Methods - Quality Control

## Sierra Analytical Labs, Inc.

Analysis	B 1	Reporting	TTe 14-	Spike	Source	NTPTC	%REC	BIIIS	RPD	1 27 "
Analyte	Result	Limit	Units	Lavel	Result	%REC	Limits	RPD	Llmit	Notes
Batch B6D2409 - EPA 3010A								350		
Blank (B6D2409-BLK1)				Prepared:	04/24/06	Analyzed	: 04/25/06			
Challium	ND	0.011	mg/L			-		-		
Vanadium	ND	0.012	Ħ*							
Line	ND	0.024	**							
.CS (B6D2409-BS1)			. *	Prepared:	04/24/06	Analyzed	± <b>04/25</b> /06			, i
Intimony .	0.212	0.023	mg/L	0.200		106	80-120	· · ·	- 22	
Arsenic	0.186	0.025		0,200		93.0	80-120		- 5	
Barium	0.203	0.019	*	0.200		102	80-120			
Beryllium	0.203	0.0090	•	0.200		102	80-120	- 25		
Cadmium	0.192	0.0040	*	0.200		96.0	80-120			
Chromium	0.207	0.0060	-	0.200		104	80-120			-
Cobalt	0.214	0.0060	Ħ	0.200		107	80-120			
Copper	0.216	0.012		0.200		108	80-120			
bas	0.213	0.019	11	0.200		106	80-120			
Aolybdenum	0.203	0.028	11	0.200		102	80-120			141
Nickel	0.213	0.010	11	0.200		106	80-120		+	
elenium	0.178	0.026	14	0.200		89.0	80-120			
ilyer ·	0.202	0.0030	п	0.200		101	80-120			
hallium	0.189	0.011	II.	0.200		94.5	80-120			
/anadium	0.204	0.012	а	0.200		102	80-120			
line	0.192	0.024	и	0.200		96.0	80-120			
Watrix Spike (B6D2409-MS1)	Sou	ırce: 0 <b>604</b> 33	2-04	. Prepared:	04/24/06	Analyzed	1. 04/25/06			
Antimony	0.213	0.023	mg/L	0.200	0.011	101	75-125		•	· · · · · · · · · · · · · · · · · · ·
Arsenic	0.187	0.025	_ <u>_</u>	0.200	ND	93.5	75-125			
Barium	0.204	0.019		0.200	ND	102	75-125			
Beryllium	0.204	0.0090	W	0.200	ND	102	75-125			
Cadmium	0.193	0,0040	#	0.200	0.00058	96.2	75-125			
Chromium	0.209	0.0060	N N	0.200	ND	104	75-125			
Cobalt	0.215	0,0060	•	0.200	0.0024	106	75-125			
Copper	0.216	0.012	**	0.200	ND	108	75-125			
_ead	0.209	0.019	**	0.200	0.0049	102	75-125			
Molybdenum	0.203	0.028	**	0.200	ND	102	75-125			
Vickel	0.215	0.010	11	0.200	ND	108	75-125			
Selenium	0.179	0.026	11	0.200	ND	89.5	75-125			
Silver	0.206	0.0030	U.	0.200	ND	103	75-125			-
Thallium	0.193	0.011	11	0.200	ND	96.5	75-125			
Vanadium	0.206	0.012		0.200	ND	103	75-125			



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200 Westminster CA, 92683 Project: APC
Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

## Metals by EPA 6000/7000 Series Methods - Quality Control

## Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D2409 - EPA 3010A							-			***
Matrix Spike (B6D2409-MS1)	Son	rce: 069433	2-04	Prepared:	04/24/06	Analyzed	: 04/25/06	•	-1-	
Zinc	0.191	0.024	mg/L	0,200	ND	95.5	75-125			
Matrix Spike Dup (B6D2409-MSD1)	Sou	rce: 060433	2-04	Prepared:	04/24/06	Analyzed	: 04/25/06			
Antimony	0.217	0.023	mg/L	0,200	0.011	103	75-125	1.86	20	· ·
Arsenic	0.193	0.025	· II	0.200	ND	96.5	75-125	3.16	20	- 2
Barium	0.206	0.019	ji .	0.200	ND	103	75-125	0.976	20	
Beryllium	0.205	0.0090	н	0.200	ND	102	75-125	0.489	20	
Cadmium	0.194	0.0040	н	0.200	0.00058	96.7	75-125	0.517	20	
Chromium	0.210	0.0060	н	0.200	ND	105	75-125	0.477	20	Ξ
Cobalt	0.215	0.0060	r	0.200	0.0024	106	75-125	0.00	20	4.9
Copper	0.218	0.012	N	0.200	ND	109	75-125	0.922	20	
Lead	0.216	0.019	W	0.200	0.0049	106	75-125	3.29	20	-8-
Molybdenum .	0.207	0.028	*	0.200	ND	104	75-125	1.95	20	
Nickel	0.215	0.010	Ħ	0.200	ND	108	75-125	0.00	20	
Selenium	0.181	0,026	19	0.200	ND	90.5	75-125	1.11	20	
Silver	0.205	0.0030	, n	0.200	ND	102	75-125	0.487	20	
Thallium	0.193	0.011	b	0.200	ND	96.5	75-125	0.00	20	
Vanadium	0.206	0.012	11	0.200	ND	103	75-125	0.00	20	
Zine	0.189	0.024	u	0.200	ND	94.5	75-125	1.05	20	
Batch B6D2416 - EPA 3060A								*		
Blank (B6D2416-BLK1)		· ·		Prepared	04/24/06	Analyzed	l: 04/ <b>26</b> /06	•		,
Hexavelen Chromium	ND	0.25	mg/kg							*
LCS (B6D2416-BS1)				Prepared	04/24/06	Analyzea	l: 04/ <b>25</b> /06			
Hexavalent Chromium	2.50	0.25	mg/kg	2.50		100	80-120			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

r: 110201C

Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

## Metals by EPA 6000/7000 Series Methods - Quality Control

## Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D2416 - EPA 3060A										
Matrix Spike (B6D2416-MS1)	Sou	rce: 060433	2-01	Prepared:	04/24/06	Analyzed	1: 04/25/06			-
Hexavalent Chromium	2,42	0.23	mg/kg	2.33	0.49	82.8	75-125			
Matrix Spike Dup (B6D2416-MSD1)	Son	rce: 060433	2-01	Prepared:	04/24/06	Analyzed	1: 04/25/06			
Hexavelent Chromium	2.69	0.24	mg/kg	2,42	0.49	90.9	75-125	10.6	20	



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

cis-1,3-Dichloropropene

Hexachlorobutadiene

Ethylbenzene

trans-1,3-Dichloropropene

Project: APC

Project Number: H0287C

Reporting

Project Manager: Lee Paprocki

Reported:

RPD

%REC

04/27/06 12:55

# Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Sierra Analytical Labs, Inc.

Spike

Source

Analyte	Result	Limit	Unite	Lovel	Result	%REC	Limits	RPD	Limit	Notes	5
Batch B6D1901 - EPA 5030B P &	èΤ								ŀ	-	
Blank (B6D1901-BLK1)	4			Prepared	& Analyz	ed: 04/18/0	)6	_	*		
Benzene	ND	1,0	μg/L					-			*
Bromobenzene	ND	1.0	₩								
Bromochloromethane	ND	1.0	1)				+ +		-8-		
Bromodichloromethane	··· ND	1.0	Ħ								
Bromoform	ND	1.0	· 17								
Bromomethane	ND	5.0	ti						0		
n-Butylbenzene	ND	1.0	4		*						
sec-Butylbenzene	ND	1.0	11								
tert-Butylbenzene	ND	1.0	"		×						
Carbon tetrachloride	ND	1,0	11							- *	
Chlorobenzene	ND	1.0	ч								
Chloroethane	ND	5.0	41	. *					10		
Chloroform	ND	1.0	"			*					9
Chloromethane	ND	5.0	"	*							
2-Chlorotoluene	ND	1,0	11 '"								8
4-Chlorotoluene	ND	1.0	п	*				*			
Dibromochloromethane	ND	1,0	n	. "							
1,2-Dibromo-3-chloropropaue	ND	5.0	P								
1,2-Dibromoethane (EDB)	ND	1.0	U					•		,	
Dibromomethane	ND	1.0	π								-
1,2-Dichlorobenzene	ND	1.0	n								
1,3-Dichlorobenzene	ND	1.0	*	8							
1,4-Dichlorobenzene	ND	1.0	n								
Dichlorodifluoromethane	ND	5,0									
1,1-Dichloroethane	ND	1.0	W								
1,2-Dichloroethane	ND	1,0	н								
1,1-Dichloroethene	ND	1.0	w								
cis-1,2-Dichloroethene	ND	1,0						*	-×-		
trans-1,2-Dichloroethene	ND	1.0	*								
1,2-Dichloropropane	ND	1.0	11								
1,3-Dichleropropane	ND	1,0	u.								
2,2-Dichloropropane	ND	1.0	11								
1,1-Dichloropropene	ND	1,0	ur								

1.0

1.0

1.0

1.0

ND

ND

ND

ND

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



5455 Garden Grove Blvd, Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Undle	Spiko Level	Source Result	%REC	%REC Limite	RFD	RPD Limit	Notes
Batch B6D1901 - EPA 5030B P & T	+									
Blank (B6D1901-BLK1)				Prepared	& Analyza	d: 04/18/	06			
Isopropylbenzene	ND	1.0	μg/L					-		
p-Isopropyltoluene	ND	1.0	H				-		. *	
Methylene chloride	ND	1.0	ır				*			
Methyl tert-butyl ether	ND	1.0	"						*	
Naphthalene	ND	1.0	"							
n-Propylbenzene	ND	1.0	"						*	
Styrene	ND	1.0	у.							
1,1,1,2-Tetrachloroethane	ND	1.0	и							
1,1,2,2-Tetrachloroethane	ND	1.0	U				*			
Tetrachloroethene	ND	1.0	u <sub>e</sub>							
Toluene	ND	1.0	u							
1,2,3-Trichlorobenzene	ND	1.0	ш		*					
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0	*							
1,1,2-Trichloroethane	ND	1.0	*							
Trichloroethene	ND	1.0	44			-			-	
Trichlorofluoromethane	ND	5.0	H							
1,2,3-Trichloropropane	ND-	5.0	ħ							
1,2,4-Trimethylbenzene	ND	1.0	п							
1,3,5-Trimethylbenzene	ND	1.0	h							
Vinyl chloride	ND	5.0								
m,p-Xylene	ND	1.0	¥r							
o-Xylene	ND	1,0	n							
Surrogate: Dibromoftworomethane	54,3		*	50.0		109	86-118		•	
Surrogate: Toluene-d8	50.7		"	50.0		101	88-110			
Surrogate: 4-Bromofluorobenzene	50.9		"	50.0		102	86-115			
LCS (B6D1901-BS1)				Prepared	& Analyz	ed: 04/18/	06			
Вепиеле	56.7	1.0	μg/L	50.0		113	80-120			,
Chlorobenzene	49.7	1.0	(f	50.0		99,4	80-120			
1,1-Dichloroethene	49.2	1.0	н	50.0		98.4	80-120			
Toluene	53.0	1.0	π	50.0		106	80-120			
Trichloroethene	49.9	1.0		50.0		99.8	80-120			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Worley Parsons Komex 5455 Garden Grove Bivd. Suite 200 Westminster CA, 92683 Project APC
Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC	RPD	RPD Limit	Notes
Batch B6D1901 - EPA 5030B P & T		*		*						
Matrix Spike (B6D1901-MS1)	So	urce: 060432	7-30	Prepared	& Analyze	ed: 04/18/	06			
Велиеле	55.9	1.0	μg/L	50,0	ND	112	37-151			
Chlorobenzene	48.5	1.0	и	50.0	ND	97.0	37-160			
1,1-Dichloroethene	46.1	1.0	т.	50.0	ND	92.2	50-150		•	
Toluene	51.9	1,0	Ħ	50.0	ND	104	47-150			
Trichloroethene	47.4	1.0	11	50.0	ND	94.8	71-157			
Matrix Spike Dup (B6D1901-MSD1)	So	urce: 060432	7-30	Prepared	& Analyz	ed: 04/18/	06		=	
Велиене	54.4	1.0	μg/L	50.0	. ND	109	37-151	2.72	30	
Chlorobenzene	46.9	1,0	Iŧ	50.0	ND	93.8	37-160	3.35	30	
1,1-Dichloroethene	44.5	1.0	la.	50.0	ND	89.0	50-150	3,53	30	
Toluene	50.2	1.0	M	50.0	ND	100	47-150	3.33	30	
Trichloroethene	46.1	1.0	*	50.0	ND	92.2	71-157	2.78	30	
Batch B6D1927 - EPA 5035 P & T	* * *	÷		•						
Blank (B6D1927-BLK1)		·· · · · · · · · · · · · · · · · ·		Prepared	& Analyz	ed: 04/18/	06		•	
Benzana	ND	5.0	μg/kg	···					·	
Bromobenzene	ND	5.0	н					α.	0.45	
Bromochloromethane	ND	5.0							- X-	
Bromodichloromethaue	ND	5.0	D	*.						
Bromoform	ND	5.0	rı							
Bromomethane	ND	5.0	**							
n-Butylbenzene	ND	5,0	"							
sec-Burylbenzene	ND	5.0								
tert-Butylbenzene	ND	5,0	· ·							
Carbon tetrachloride	ND	5.0	11							
Chlorobenzene	ND	5.0	H							
Chloroethane	ND	5.0	u							
Chloroform	ND	5.0	11							
Chloromethane	ND	5.0	н							
2-Chlorotoluene	ND	5.0	n							
4-Chlorotoluene	ND	5.0	n <sub>c</sub>							
Dibromochloromethane	ND	5.0	м							Date
1,2-Dibromo-3-chloropropane	ND	5.0								
1,2-Dibromoethane (EDB)	ND	5.0								
Dibromomethane	ND	5.0	<b>7</b> 1							
1,2-Dichlorobenzene	ND	5.0	19							
1,3-Dichlorobenzene	ND	5.0	- 11							



5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C

Project Manager: Lee Paprocki

Reparted: 04/27/06 12:55

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B6D1927 - EPA 5035 P & T		Ī		-					-	-
Blauk (B6D1927-BLK1)				Prepared	& Analyz	ed: 04/18/	06			
1,4-Dichlorobenzene	ND	5.0	μg/kg		-					
Dichlorodifluoromethane	ND	5.0	P							
1,1-Dichloroethane	ND	5.0	P			*		-		
1,2-Dichloroethane	ND	5.0	* 10	*						
1,1-Dichloroethene	ND	5.0	я .							
cis-1,2-Dichloroethene	, ND	5.0	•							-
rans-1,2-Dichloroethene	ND	5.0	*						-	
1,2-Dichleropropans	ND	5.0	**							
1,3-Dichloropropane	ND	5.0	п							10
2,2-Dichloropropane	ND	5.0	п							
1,1-Dichloropropene	ND	5.0	n	0						
cis-1,3-Dichloropropene	ND	5.0	Ħ							
rans-1,3-Dichloropropene	ND	5.0								
Sthylbenzene	ND	5.0	и							-
Hexachlorobutadiene	ND	5.0	n							
sopropylbenzene	ND	5.0								
p-Isopropyltoluene	ND	- 5.0	17							7
Methylene chloride	ND	5.0	Ir							
Methyl tert-butyl ether	ND	5.0	11	*						
Naphthalene	ND	5.0								
n-Propylbenzene	ND	5.0								
Styrene	ND	5.0	R							
1,1,1,2-Tetrachloroethane	ND	5.0	•							
1,1,2,2-Tetrachloroethane	ND	5.0				0.0				
Tetrachloroethene	ND	5.0	'n							
Toluene	ND	5.0	u							
1,2,3-Trichlorobenzene	ND	5.0	Í							
1,2,4-Trichlorobenzene	ND	5.0	, 0							
1,1,1-Trichloroethane	ND	5.0	19							
1,1,2-Trichloroethene	ND	5,0	H							
Trichloroethene	ND	5.0	н				-			
Trichloroffuoromethane	ND	5.0	н							
1,2,3-Trichloropropane	ND	5.0	b							
1,2,4-Trimethylbenzene	ND	5.0	It							
1,3,5-Trimethylbenzene	ND	5.0	n							
Vinyi chloride	ND	5.0	· ·							
m,p-Xylene	ND	5.0	br							



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C
Project Manager: Lee Paprocki

Reported: 04/27/06 12:55

# Volatile Organic Compounds by EPA Method 8260B - Quality Control

## Sierra Analytical Labs, Inc.

Analyte	Racult	Reporting Limit	Unita	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
-										
Batch B6D1927 - EPA 5035 P & T										
Blank (B6D1927-BLK1)				Prepared	& Analyza	ed: 04/18/	06		×	
o-Xylene	ND	5.0	µg/kg		-					
Surrogate: Dibromofluoromethane	56.2	<del></del>	h.	50.0		112	80-120			
Surrogate: Toluene-d8	50.7		n	50.0		101	81-117			
Surrogate: 4-Bromofluorobenzene	49.8		u	50.0		99.6	74-121	-		
LCS (B6D1927-BS1)	٠			Prepared	& Analyza	ed: 04/18/	06			
Benzene	55.9	5.0	µg/kg	50.0		112	80-120			
Chlorobenzene	47.2	5.0	ч	50.0		94.4	80-120		-5-	4 *
1,1-Dichloroethene	45.8	5.0	R	50.0		91,6	80-120			
Toluene	50.4	5.0	et et	50.0		101	80-120			1.4
Trichloroethene	46.5	5,0	W	50.0		93,0	80-120	- 		
Matrix Spike (B6D1927-MS1)	So	urce: 060432	7-02	Prepared:	04/18/06	Analyze	1: 04/19/00	5		
Benzene	55.7	5.0	µg/kg	50.0	ND	111	37-151	Ø.		
Chlorobenzene	46.0	5.0		50.0	ND	92.0	37-160			
1,1-Dichloroethene	46.0	5.0	. "	50.0	ND	92.0	50-150			
Toluene	50.6	5.0	1)	50.0	ND	101	47-150		)-	
Trichloroethene	46.2	5.0	u	50.0	ND	92.4	71-157	Δ.		x
Matrix Spike Dup (B6D1927-MSD1)	So	urce: 060432	7-02	Prepared	04/18/06	Analyze	1: 04/1 <b>9</b> /00	5		
Benzene	54.9	5.0	μ <b>g/kg</b>	50.0	ND	110	37-151	1.45	<b>3</b> 0	
Chlorobenzene	46.5	5.0	"	50.0	ND	93.0	37-160	1.08	30	
1,1-Dichloroethene	46.2	5.0	11	50.0	ND	92.4	50-150	0.434	30	
Toluene	49.7	5.0	11	50.0	ND	99.4	47-150	1.79	30	
Trichloroethene	46,1	5.0	0	50.0	ND	92.2	71-157	0.217	30	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Worley Parsons Komex 5455 Garden Grove Blvd. Suite 200

Westminster CA, 92683

Project: APC

Project Number: H0287C Project Manager: Lee Paprocki Reported: 04/27/06 12:55

#### Notes and Definitions

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

QR-04 The RPD result exceeded the QC control limits; however, either the MS or MSD percent recovery was acceptable. Sample results for the QC batch were accepted based on percent recovery and completeness of QC data.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

## CHAIN OF CUSTODY RECORD



SIERRAANALYTICAL

TEL: 949•348•9389 FAX: 949•348•9115

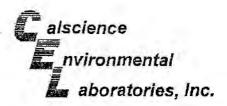
26052 Merit Circle Suite 105 Laguna Hills, CA 92653

Date: 4/17/06

Page | of !

Lab Project No.: 0604333

Des Kan	*		+				Analysis	Peanee	tod		
Client: Worldy Parsons Kowa Client Address:  5455 Garden Grove Blud  Augstminster, A 921  Client Tel. No.: 714-379-1157  Client Fax. No.: 714-379-1160  Client Proj. Mgr.: Lee Parsocki	Surt .	Time Requested	Insmediate 2	1	- laiber lange 8015	1 7199					Geotracker EDD Info:  Client LOGCODE  Site Global ID
Client Sample ID.	Date Ti			No. of Containers	TPH- VCKs		-	5			Field Point Names/ Comments
B49-41706-1-1 2014 B49-41708-2-4 58	1176 95		all the		77	1/					
B49-4171x-2-4 50	1 100		1	1	14	$ \lambda $				*	
B-19-41706-3-7	102	12 5	V	t	11	1				+	
FB-41706 09	8:4	15 W HUS	POA, IL APADO	6	14 14	4			<u> </u>		a.
TB-41704	_	- W HCL	vva	3	M X						
EB-41706 06	V 100	O W HELL NAME !	+ poly	6	メメ	Y					
Sampler Signature Lel Papus Lin		Shipped Via:					Total Nur Laborator		ntainers S	ubmitted to	Sample Disposal:
Printed Name: LLC VANOLA	1717	(Carrier/Waybill No.)	1 %			£				. 121	Retain to Chem
Relinquished By:	\$117/06	Received		6-17/06 Date:	authorization	to perform 8	he analysis sp	cified above	under STERF	orm constitutes LA's Terms and A and CLIENT.	Lab Disposal*
complianty Passons Konzex	5:00 Time:	Company Serva	1	Time!			be hazardous l				Archivemos.
Reinquished By:	Date	Received By:		Date.	*		Total Nu		Containers	Received	Other
Company: 4 Relinquished By:	Time:	Company:		Time:						pt Conduc	
Relinquished By:	Date	Received By:		Date:	<b>M</b>	* ** ***		- 17/1°		CONT.	W.O-L - Th
Company:	Time:	Соправу:	:	Тіте:						les Verdiere	
Special Instructions:			* ,		<u>и</u> У			Ų V	Other	4_26	40 30/336/4103





May 17, 2006

Lee Paprocki Worley Parsons Komex 5455 Garden Grove Blvd., Suite 200 Westminster, CA 92683-8201

Subject: Calscience Work Order No.: 06-04-0962

Client Reference: APC

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 4/17/2006 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Calscience Environmental

Laboratories, Inc.

Jason Torres Project Manager

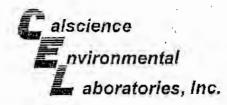
**CA-ELAP ID: 1230** 

NELAP ID: 03220CA

**CSDLAC ID: 10109** 

SCAQMD ID: 93LA0830

7440 Lincoln Way, Garden Grove, CA 92841-1427 • TEL:(714) 895-5494 • FAX: (714) 894-7501





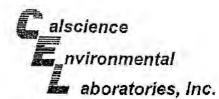
Worley Parsons Komex 5455 Garden Grove Blvd., Suite 200 Westminster, CA 92683-8201 Date Received: Work Order No: Preparation: Method:

04/17/08 06-04-0962 N/A EPA TO-3(M)

Project: APC

Page 1 of 1

Client Sample Number		Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
B48-41706		06-04-0962-1	04/17/06	Alc	N/A	04/25/06	1 060425L01
Parameter	Result	RL	DF	Qual	Units	. *	
TPH as Gasoline	1,2000	74	5:36		ug/L		
.B47-41706		08-04-0962-2	04/17/06	'Air 4	N/A	04/25/06	060425L01
Parameter	Result	RL	DF	Qual	Units		
TPH as Gasoline	26000	160	11.3		ug/L		v
Method Blank		098-01-006-542	HANA	AIL	N/A	04/25/06	060425L01
Parameter .	Result	RL	DE.	Qual	Unita	* .	
TPH as Gasoline	ND	14 '	1 .		ug/L		





Worley Parsons Komex

5455 Garden Grove Blvd., Suite 200

Westminster, CA 92683-8201

Date Received:

Work Order No:

Preparation:

Method: Units: 04/17/06

06-04-0962

N/A EPA TO:14A

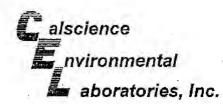
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Project: APC

Page 1 of 3

Client Sample Number				Sample umber	Date Collected	Matrix p	Date Prepared A	Date Inalyzed	QC Bat	ch ID
B48-41706			06-04-0	962-1	04/17/06	Air	NA II	04/17/06	060417	L01 / IL.
Parameter	Result	RL	DE	Qual	Parameter		Result	RL	DE	Qual
Benzene	ND	1.2	737		t-1,3-Dichloropr	ropene	ND	3.3	737	
Benzyl Chloride	ND	3.B	737		Ethylbenzene		ND	1.6	737	
Bromomethane	ND	1.4	737	-	Hexachloro-1,3	-Butadiene	ND	.7.9	737	
Carbon Tetrachloride	ND	2.3	737		Methylene Chlo	iride	8.1	5.1	737	
Chlorobenzene	ND	1.7	737		a-Xylene		, ND	1.6	737	
Chloroethane	ND	0,97	737		p/m-Xylene		ND	3,2	737	
Chloroform	ND	1.8	737		Styrene		ND	3.1	737	
Chloromethane	ND	0.76	737		Tetrachloroethe	еле	9.1	2.5	737	
Dichlorodifluoromethane	ND .	1.8	737		Toluene		ND	1.4	737	
1,1-Dichloroethane	ND	1.5	737		Trichloroethene	9	15	2	737	
1,1-Dichloroethene	ND.	1.5	737		Trichlorafluoror	methane	ND	4,1	737	
1,2-Dibromoethane	ND	2.8	737		1,1,2-Trichloro-	-1,2,2-Trifluoroeth	ane ND	5.6	737	
Dichlorotetrafluorpethane	ND	10	737		1,1,1-Trichloro	ethane	ND	2.0	737	
1,2-Dichlorobenzene	ND	2,2	737		1,1,2-Trichloro	ethane	ND	2.0	737	
1,2-Dichloroethane	NO .	1.5	737		1,3,5-Trimethyl	Ibenzene	ND	1.8	737	
1,2-Dichloropropane	ND	1.7	737		1,1,2,2-Tetrach	nloroethane	ND	5.1	737	
1,3-Dichlorobenzene	ND	2.2	737		1,2,4-Trimethyl	Ibenzene	ND	3.6	737	
1,4-Dichlorobenzene	ND	2.2	737		1,2,4-Trichloro	benzene	ND	5,5	737	
c-1,3-Dichloropropene	. ND	1.7	737		Vinyl Chloride		32	1	737	
c-1,2-Dichloroethene	7.3	1.5	737		Isopropanol		6.1	3,6	737	
Surrogates:	REC (%)	Control Limits		<u>Qual</u>	Surrogates:		REC (%	(a) Control Limits		Qual '
1,4-Bromofluorobenzene	96	57-129			1,2-Dichloroeth	nane-d4	80	47-137		
Toluene-d8	113	78-156								







Worley Parsons Komex

5455 Garden Grove Blvd., Suite 200 Westminster, CA 92683-8201

Date Received:

04/17/06

Work Order No:

06-04-0962

Preparation:

N/A

Method:

EPA TO-14A

Units:

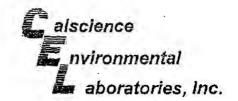
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Project: APC

Page 2 of 3

Client Sample Number				Sample lumber	Date Collected	Matrix	Date Prepare		ate lyzed	QC Ba	ich ID
B47-417.06 619.23			06-04-0	962-2	04/17/06	Air III.	N/A	. 04	/17/06	060417	LOTHIN !
Parameter	Result	RL	DE.	Qual	<u>Parameter</u>			Result	RL	DF	Qual
Benzene	ND	1.2	776		t-1,3-Dichloropi	ropene		ND	3.5	776	
Benzyl Chloride	ND .	4.0	776		Ethylbenzene			ND '	1.7	776	
Bromomethane	ND	1.5	776		Hexachloro-1,3	-Butadlene		ND	8.3	776	
Carbon Tetrachioride	ND	2.4	776		Methylene Chic	oride		11	5	776	
Chlorobenzene	ND	1.8	776		o-Xylene			ND	1.7	776	
Chloroethane	ND	1.0	776		p/m-Xylene			ND	3.4	776	*
Chioroform	ND	1.9	776		Styrene		*	ND	3.3	776	
Chioromethane	ND	0.80	776		Tetrachloroethe	ene		ND	2.6	776	*
Dichlorodifluoromethane	ND	1.9	776		Toluene			ND	1.5	776	
1,1-Dichlorcelhane	ND	1.6	776		Trichloroethene			ND	2.1	776	
1,1-Dichlorcethene	ND .	1.5	776		Trichlorofluoro	methane		ND	4.4	776	
1,2-Dibromoethane	ND	3.0	776	*	1,1,2-Trichloro	-1,2,2-Trifluoroet	hane	ND	5.9	776	-
Dichlorotetrafluoroethane	ND	11	778		1,1,1-Trichloro			ND	. 2.1	778	*
1,2-Dichlorobenzene	ND	2.3	776	1	1,1,2-Trichloro			ND	2.1	776	
1,2-Dichloroethane	ND	1,6	776		1,3,5-Trimethy			ND	1.9	776	
1,2-Dichloropropane	ND -	1.8	776		1,1,2,2-Tetrach			ND .	5.4	776	
1,3-Dichlorobenzene	ND	2.3	776		1,2,4-Trimethy			ND	3.8	776	
1,4-Dichlorobenzene	ND	2,3	776		1,2,4-Trichloro	benzene		ND	5,8	776	
c-1,3-Dichloropropene	ND	1.8	776		Vinyl Chloride			35	1	-776	
c-1,2-Dichloroethene	4.0	1.5	776		Isopropanol			9.8	3.8	776	
Surrogates:	REC (%)	<u>Control</u> <u>Limits</u>		<u>Qual</u>	Surrogates:		Ī	REC (%)	Control Limita		Qual
1,4-Bromofluorobenzene	97	57-129			1,2-Dichloroeti	hane-d4		78	47-137		
Toluene-d8	112	78-158									







Worley Parsons Komex

5455 Garden Grove Blvd., Suite 200

Westminster, CA 92683-8201

Date Received:

Work Order No:

Preparation:

Method: Units: 04/17/06

06-04-0962

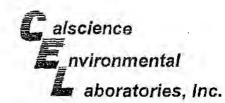
N/A EPA TO-14A

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Project: APC

Page 3 of 3

Client Sample Number				b Sample Number	Date Collected	Malrix p	Date repared A	Date nalyzed	QC B	atch ID
Method Blank			095-01	-021-3,81	S NA	Air	WA!	04/17/06	06041	7L01
Parameter	Result	RL	DF	Qual	Parameter	•	Result	RL.	DE	Qual
Benzene	ND	0.0016	1		t-1,3-Dichlorop	ropene	ND	0.0045	1	
Benzyl Chloride	ND	0.0052	1		Ethylbenzene:		ND	0.0022	1	
Bromomethane	ND	0.0019	1		Hexachioro-1,3	-Butadiene	NO	0.011	1	
Carbon Tetrachloride	ND	0.0031	1		Methylene Chic	oride	ND	0.0069	1	
Chlorobenzene	ND	0.0023	1		o-Xylene		ND	0,0022	1	
Chloroethane	ND	0.0013	1		p/m-Xylene		ND	0.0043	1	
Chloroform	ND '	0.0024	1		Styrene		ND:	0.0043	1	
Chloromethane	ND	0.0010	1		Tetrachloroeth	ene	ND	0.0034	1	
Dichlorodifluoromethane	ND	0.0025	1		Toluene		ND	0.0019	1	
1,1-Dichloroethane	ND	0.0020	1		Trichloroethen	6	ND	0.0027	1	
1,1-Dichloroethene	ND	0.0020	1		Trichlorofluoro	methane	ND	0.0056	1	
1,2-Dibromoethane	ND	0.0038	· 1		1,1,2-Trichloro	-1,2,2-Trifluoroeth	ane ND	0.0077	1	:
Dichlorotetrafluorcethane	ND	0.014	1		1,1,1-Trichloro	ethane	ND .	0.0027	1	
1,2-Dichlorobenzene	ND	0.0030	1		1,1,2-Trichloro	ethane	ND	0.0027	1 1	
1,2-Dichlorcethane	ND	0.0020	1 -		1,3,5-Trimethy	/benzene	ND	0.0025	. 1	
1,2-Dichloropropane	ND	0.0023	1		1,1,2,2-Tetrac	hloroathane	- ND	0.0069	1	
1,3-Dichlorobenzene	ND	0.0030	1		1,2,4-Trimethy	/benzene	ND	0.0049	1	
1,4-Dichlorobenzene	ND	0.0030	1		1,2,4-Trichlord	benzene	ND	0.0074	1	
c-1,3-Dichloropropene	ND	0.0023	- 1		Vinyl Chloride		ND	0.0013	1	
c-1,2-Dichloroethene	. ND	0.0020	1		isopropenol		ND	0.012	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	16	REC (%	Control Limits		Qual
1,4-Bromofluorobenzene	. 94	57-129	-		1,2-Dichlaroet	hane-d4	111	47-137		
Toluene-d8	98	78-158					-			





Worley Parsons Komex

Project: APC

5455 Garden Grove Blvd., Suite 200

Westminster, CA 92683-8201

Date Received:

Work Order No:

Preparation:

Method: Units: 04/17/06

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06-04-0962

EPA TO-14A

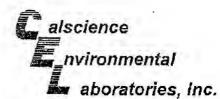
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N/A

Page 1 of 2

Client Sample Number	×			Sample lumber	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Bat	ch ID
QC-Ambient Air		MARKET.	08-04-0	962-3	04/17/06	Áir.	N/A	04/18/06	D60418	010.00
Parameter	Result	RL	DF	Qual	Parameter		Resul	RL	DF	Qual
Benzene	ND	0.0024	1.49		t-1,3-Dichloroprop	ene	ND	8800.0	1.49	
Benzyl Chloride	ND	0.0077	1.49		Ethylbenzene		ND	0.0032	1.49	
Bromomethane	ND .	0.0029	1.49		Hexachloro-1,3-B	utadiene	ND	0.016	1.49	
Carbon Tetrachioride	ND	0.0047	1.49		Methylene Chioric	de	ND	0,010	1.49	
Chlorobenzene	ND	0.0034	1.49		o-Xylene		ND	0.0032	1,49	
Chloroethane .	ND	0.0020	1.49		p/m-Xylene	-	ND	0.0065	1,49	
Chloroform	ND	0.0036	1.49		Styrene		- ND	0.0063	1,49	
Chloromethane	ND	0.0015	1.49		Tetrachloroethen	0	ND	0.0051	1.49	
Dichlorodifluoromethane	ND	0.0037	1.49		Toluene		0.023	0.003	1.49	
1,1-Dichiorcethane	ND	0,0030	1,49		Trichloroethene	_	ND	0,0040	1.49	
1,1-Dichioroethene	ND	0.0030	1.49		Trichlorofluorome	ethane	NO	0.0084	1.49	
1,2-Dibromoethane	ND	0.0057	1,49		1,1,2-Trichloro-1,	,2,2-Trifluoroet	hane ND	0.011	1.49	
Dichlorotetrafiuoroethane	ND	0.021	1.49		1,1,1-Trichloroett	hane	ND	0.0041	1.49	
1,2-Dichlorobenzene	ND	0.0045	1.49		1,1,2-Trichloroett	hane	ND	0.0041	1.49	
1,2-Dichloroethane	ND ·	0.0030	1.49		1,3,5-Trimethylbe	enzene	ND	0.0037	1.49	
1,2-Dichloropropane	ND	0.0034	1.49		1,1,2,2-Tetrachio	roethane	DN	0.010	1,49	
1,3-Dichlorobenzene	ND	0.0045	1.49		1,2,4-Trimethylbe	enzene	ND	0.0073	1.49	
1,4-Dichlorobenzene	ND	0.0045	1.49		1,2,4-Trichlorobe	enzene	ND	0.011	1,49	
c-1,3-Dichioropropene	ND	0.0034	1.49		Vinyl Chloride		ND	0.0019	1,49	
c-1,2-Dichloroethene	· ND	0.0030	1.49							
Surrogates:	REC (%)	Centrol Limits		Qual	Surrogates:		REC (S	(6) Control		Qual
1,4-Bromofluorobenzene Toluene-d8	9'8 99	57-129 78-156			1,2-Dichloroetha	ne-d4	92	47-137		

RL - Reporting Limit





Worley Parsons Komex

5455 Garden Grove Blvd., Suite 200

Westminster, CA 92683-8201

Date Received:

Work Order No:

Preparation:

Method:

Units:

04/17/08

06-04-0962

N/A

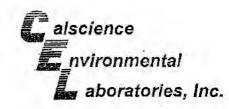
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Project: APC

Page 2 of 2

Client Sample Number				b Sample Number	Date Date Date Collected Matrix Prep	ite ared A	Date Analyzed	QC Be	itch ID
Method Blank			br val: Brown word	-021-3,81	that is a second three to the source of the control of a control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control o	A	04/18/06	060418	SLO1
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND.	0.0016	1		t-1,3-Dichloropropene	- ND	0.0045	1	
Benzyl Chlorids	· ND.	0.0052	1		Ethylberizene	ND	0.0022	1	
Bromomethane	ND.	0.0019	1		Hexachloro-1,3-Butadiene	ND '	0.011	1	
Carbon Tetrachloride	ND ND	0.0031	. 1		Methylene Chloride	ND	0.0069	1	
Chlorobenzene	ND .	0.0023	1		a-Xylene	- ND	0.0022	1	
Chloroethane	ND	0.0013	1		p/m-Xylene	ND	0.0043	1	
Chloroform	ND	0.0024	1		Styrene	ND	0.0043	1	
Chloromethane	ND .	0.0010	1		Tetrachloroethene	ND '	0.0034	1	
Dichlorodifluoromethane	ND .	0.0025	1		Toluene	ND	0.0019	1	
1,1-Dichloroethane	ND ·	0,0020	1		Trichloroethene	ND	0.0027	1	
1,1-Dichloroethene	ND	0.0020	1.		Trichlorofluoromethane	ND	0.0056	1	
1.2-Dibromoethane	ND .	0.0038	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.0077	1	
Dichlorotetrafluoroethane	· · ND .	0.014	1	,	1,1,1-Trichloroethane	ND	0.0027	1	
1,2-Dichlorobenzene	ND	0.0030	1	17	1,1,2-Trichloroethane	ND	0.0027	t	
1,2-Dichloroethane	ND .	0.0020	1		1,3,5-Trimethylbenzene	ND	0.0025	1	
1,2-Dichloropropane	ND	0.0023	1		1,1,2,2-Tetrachloroethane	ND	0.0069	1	
1,3-Dichiorobenzene	ND	0.0030	1		1,2,4-Trimethylbenzene	ND	0.0049	. 1	
1,4-Dichlorobenzene	ND	0.0030	1		1,2,4-Trichlorobenzene	ND	0.0074	1	
c-1,3-Dichloropropene	ND	0.0023	1		Vinyl Chloride	ND	0.0013	1	
c-1,2-Dichloroethene	ND .	0.0020	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	. REC (9	(a) Control Limits		Qual
1,4-∃romofluorobenzene	99	57-129			1,2-Dichloroethane-d4	78	47-137		
Toluene-d8	97	76-156			±				



## Glossary of Terms and Qualifiers



Work Order Number: 06-04-0962

Qualifier	Definition
* ·	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
. <b>3</b>	Recovery of the Matrix Spike or Matrix Spike Duplicate compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
Α	Result is the average of all dilutions, as defined by the method.
В	Analyte was present in the associated method blank.
С	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
Н	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z.	Analyte presence was not confirmed by second column or GC/MS analysis.

## **CALSCIENCE ENVIRONMENTAL** LABORATORIES, INC.

7440 LINCOLN WAY **GARDEN GROVE, CA 92841-1427** TEL: (714) 895-5494 • FAX: (714) 894-7501

MIAH:	OF	<b>CUSTODY</b>	RECORD
	VI.		

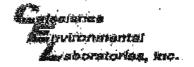
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DISTRIBUTION: White with final report-Green to File, Yellow and Pink to Client.
Please note that pages 1 and 2 of 2 of our T/Cs are printed on the reverse side of the Yellow and Pink cepies respectively.

11/20/03 Revision





WORK ORDER #:

06-09-0902

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Cooler		_ of _	

# SAMPLE RECEIPT FORM

OMINIC LICE	
CLIENT: Konesc	DATE: 4/17/6
TEMPERATURE - SAMPLES RECEIVED BY:	
CALSCIENCE COURIER:	LABORATORY (Other than Calscience Courier):
Chilled, cooler with temperature blank provided.	C Temperature blank.
Chilled, cooler without temperature blank.	°C iR thermometer.
Chilled and placed in cooler with wet ice.	Ambient temperature.
Ambient and placed in cooler with wet ice.	Company State of Company Company
Ambient temperature.	
C Temperature blank.	Initial Acco
O Temperature blank.	HILLER
CUSTODY SEAL INTACT:	
	Niái Angliaghta Allah
Sample(s): Cooler: No (Not Intact	Not Applicable (N/A):
	Initial:
SAMPLE CONDITION:	
SAMPLE COMBITION.	Yes No N/A
Chain-Of-Custody document(s) received with samples	<u>/i</u>
Sample container label(s) consistent with custody papers	_
Sample container(s) intact and good condition	
Correct containers for analyses requested	
Proper preservation noted on sample label(s)	<u> </u>
VOA vial(s) free of headspace	
Tedlar bag(s) free of condensation	<u>/</u> <u>.</u>
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COMMENTS:	

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